

Exploring Supervisor Responses to Employees Who Share Bad News:
Why and Under What Conditions are Messengers Shot?

by

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ABSTRACT

Employees are directly involved in work tasks and processes which are necessary to accomplish unit or organizational goals, and accordingly, they may become aware of key mistakes, slips, and failures that are unbeknownst to the leader or supervisor responsible for the work unit or organization. Given that errors or deviations in work tasks or processes can have far-reaching effects within the organization, it may be essential for employees to share bad news with their leader or supervisor so that steps can be taken to address the issue or ameliorate negative consequences. However, although employees' sharing of bad news may be important to the organization and should be encouraged, supervisors may respond to the messenger in ways that discourage the behavior. Unfortunately, we lack an explanation of why and under what conditions supervisors respond positively or negatively to employees who share bad news. Thus, the purpose of this dissertation is to address this gap in our understanding. I draw from social exchange theory and the transactional theory of stress to develop a conceptual model of sharing bad news. I suggest that sharing bad news can be cast as a transaction between employees and supervisors that is mediated by supervisors' appraisals of employees' sharing the message. The quality of the relationship between an employee and supervisor, or leader-member exchange (LMX), is strengthened when supervisors appraise the sharing of bad news as challenging, or potentially rewarding; however, LMX is weakened when supervisors appraise the sharing of bad news as hindering, or potential harmful. In turn, LMX influences supervisor responses to the sharing of bad news in the form of evaluations of the employee's effectiveness. In addition to these main effects, I also consider how aspects of the message delivery, such as the timeliness with which

messages are conveyed and extent to which employees incorporate solutions when they share bad news, can influence supervisor appraisals of sharing bad news. Finally, I suggest that the extent to which the messenger is responsible for the bad news moderates the relationships between appraisals of sharing bad news and LMX. I test this model in three studies.

To M. C.

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CHAPTER 1

INTRODUCTION

Mistakes are a common occurrence in organizations, and the impact of even minor mishaps can be highly consequential. Mistakes, errors, or deviations in work tasks or process can result in increased costs to the organization, negative publicity, damaged reputation, harm to customers or employees, and decreased customer satisfaction (Brodbeck, Zapf, Prümper, & Frese, 1993; Goodman, Ramanujam, Carroll, Edmondson, Hofmann, & Sutcliffe, 2011; Zhao & Olivera, 2006). These potentially detrimental outcomes suggest the importance of addressing errors when they occur, but being able to do so depends on knowing that something has gone wrong in the first place. As employees often have a direct role in the work tasks and processes that contribute to unit and organizational goals, they are frequently in a position to observe or recognize mistakes when they happen, and may become aware of issues prior to their leader or supervisor. In these situations, it is crucial that employees share bad news, or critical information regarding mistakes, errors, or deviations, with their leader, as possible problems are unlikely to be resolved without communication to those individuals responsible for the work unit who may have resources and means to effectively manage the issue (e.g., van Dyck, Frese, Baer, & Sonnentag, 2005).

Although it is clearly important for employees to convey bad news to leaders, whether they choose to do so or not is likely to depend upon the response they expect from the recipient, in particular, the response of the supervisor or leader to whom they share the news. For the purposes of this dissertation, the terms “supervisor” and “leader” will be used interchangeably. On the one hand, employees may speak up because they

feel a sense of obligation for improving the work environment (Morrison & Phelps, 1999), and believe that their supervisor or leader is open and receptive to the information being shared (Detert & Burris, 2007). Employees may feel that supervisors encourage and support the sharing of critical information (Edmondson, 2003), such as bad news, and that doing so will be helpful or beneficial to the organization or work group. Employees may subsequently believe that sharing bad news will reflect well upon them as an employee and continue to engage in the behavior.

On the other hand, sometimes employees may choose not to share bad news. Employees may be uncomfortable sharing negative information with others, particularly if they believe the news is something the recipient, such as a supervisor, may not want to hear (Conlee & Tesser, 1973). Further, organizations may have norms or policies that discourage employees from expressing their concerns or issues, and employees may be afraid of speaking up in ways that contradict the expectations of the organization generally or their supervisor specifically (e.g., Sprague & Ruud, 1988). Employees may perceive that sharing bad news will result in negative repercussions, such as retaliation or punishment for the information shared (Milliken, Morrison, & Hewlin, 2003; Morrison & Milliken, 2000). To avoid these consequences, employees may choose not to speak up.

The purpose of this dissertation is to understand how leaders respond to employees who share bad news. Understanding leader responses, as opposed to the responses of other potential recipients, is particularly important for a number of reasons. First, the interactions that occur between employees and leaders, such as the sharing of bad news, can have an influence on the employee-supervisor relationship. The quality of the relationship, in turn, has implications for the behaviors enacted by both employees

and supervisors (Wayne, Shore, & Liden, 1997). That is, supervisors may engage in behaviors that encourage or discourage employees from sharing bad news in future interactions, and employees, in turn, may or may not choose to share bad news or other information relevant or critical to work tasks. Second, supervisors have control over rewards and resources that are relevant to employees (Graen & Scandura, 1987). The sharing of bad news could influence a leader's decision in allocating certain rewards or resources to the employee who has shared. For instance, employees may receive greater rewards or resources when their leaders perceive the sharing of bad news as beneficial and fewer or no rewards or resources when their leaders perceive the sharing of bad news as harmful. Finally, and related to the previous point, supervisors are frequently responsible for assessing the overall contributions and effectiveness of employees in the workplace. When employees share bad news, it may influence the extent to which supervisors view messengers as effective in their job duties and responsibilities. Given the extent to which leaders have an influence over outcomes for employees, evaluating their responses to the sharing of bad news is highly relevant.

In order to understand leader responses, I first develop the concept of sharing bad news, and clearly define the behavior as the communication of mistakes or errors by employees to their leader or supervisor. Based on this definition, I draw on social exchange theory and suggest that sharing bad news reflects a transaction between employees and leaders, and that this transaction has implications for the exchange relationship, or leader-member exchange, between the employee and supervisor. Whereas leaders may view the sharing of bad news as a positive transaction, or an exchange that is beneficial or rewarding, leaders may also view the sharing of bad news as a negative

transaction, or an exchange that is threatening or harmful. Based on the quality of the exchange relationship, and the interpretation by leaders of sharing bad news as a positive or negative exchange, leaders will reciprocate the exchange to employees. I suggest that leaders are likely to reciprocate in the form of evaluations of effectiveness. That is, the higher the leader-member exchange, the more likely employees will receive higher ratings of effectiveness from supervisors. In contrast, lower leader-member exchange will likely lead to lower ratings of employee effectiveness.

Although considering sharing bad news in terms of social exchange explains why sharing bad news can influence leader responses, it does not account for how leaders form their responses. I integrate the transactional theory of stress (Lazarus & Folkman, 1984) with social exchange theory to suggest that the appraisals leaders make about the sharing of bad news messages could serve as the intervening mechanism through which sharing bad news effects leader-member exchange and subsequently evaluations of effectiveness. When employees share bad news, leaders may appraise their behavior as helpful or useful because it provides opportunities for growth and gain (e.g., Edmondson, 1996; Harteis, Bauer, & Gruber, 2008; Janssen, 2000). In this circumstance, the sharing of bad news could be perceived as challenging, or potentially rewarding, enhancing leader-member exchange and subsequently encouraging leaders to respond to messengers with higher rating of effectiveness in their job duties. Yet, leaders may also feel threatened when employees share bad news because the information conveyed in the message signals that goal attainment could be inhibited and suggests that a leader's time and resources may be required to resolve the issue (Lazarus & Folkman, 1984). In this regard, the sharing of bad news could be considering hindering, or constraining, by

leaders, reducing leader-member exchange quality, and subsequently fostering leaders' responses in the form of negative evaluations of effectiveness.

Additionally, scholars have suggested a number of factors that influence the appraisals leaders make when employees speak up (e.g., Whiting, Maynes, Podsakoff, & Podsakoff, 2012), and I consider three factors that are particularly relevant to sharing bad news. First, I consider how the timeliness of message delivery, or proximity of the sharing of bad news to the actual bad news event, can influence a leader's appraisal. When employees deliver bad news messages immediately following the discovery of an issue, it maximizes the amount of time available to address an issue, which could provide increased opportunity to find effective solutions to the problem. In contrast, a delay in sharing bad news could increase the sense of urgency associated with resolving the issue, and subsequently enhance feelings of harm or threat as a result of the news. Second, I consider the extent to which employees incorporate solutions that address the issue being raised when they share bad news. The presence of a solution can help leaders feel that the situation is manageable and easily resolved, which could enhance the sense that the employee is trying to help, rather than hinder, the achievement of goals.

Finally, I also consider factors that influence the relationship between each challenge and hindrance appraisals and leader-member exchange. In particular, I consider the extent to which an employee is responsible for the bad news being shared. When a supervisor believes that an employee is responsible for the bad news, they may feel that the employee has intentionally acted in a way that is harmful or destructive to the leader (e.g., Aquino, Tripp, & Bies, 2001; Bradfield & Aquino, 1999). In this regard, being responsible for the bad news is likely to temper the positive relationship between sharing

bad news and leader-member exchange and enhance the negative relationship between hindrance appraisals and leader-member exchange. Further, decreased leader-member exchange quality may make supervisors less inclined to reciprocate their obligations in the exchange relationship, or may even encourage retaliation in ways that are harmful to the employee, such as lower evaluations of effectiveness.

By exploring leader responses to the sharing of bad news by employees, I make a number of contributions to the existing literature. First, I develop the concept of sharing bad news as a unique form of employees' speaking up in the workplace. I offer a clear definition of sharing bad news, and distinguish the behavior from other related concepts that have been used to describe speaking up at work. Second, I explore the consequences of sharing bad news. That is, I consider how supervisors respond when employees share bad news and suggest that sharing bad news reflects an exchange between an employee and a leader that influences the quality of their relationship. Whereas prior work has largely considered exchanges between individuals to be positive in nature, my dissertation introduces the idea that exchanges could have negative valence, and explores how a potentially negative transaction can influence employee outcomes. Third, I contribute to the emerging body of work regarding cognitive appraisals of workplace demands. Whereas prior work has suggested that demands in the work environment are consistently evaluated as either challenging or hindering (Cavanaugh, Boswell, Roehling, & Boudreau, 2000), I suggest that some demands, such as bad news, have the potential to be both. Additionally, I explore factors that influence the appraisal process, and consider how each challenge and hindrance appraisals can have unique effects on the exchange relationship between an employee and supervisor, and how the quality of the exchange

relationship can ultimately influence supervisor ratings of employee effectiveness. Finally, and most generally, my study expands our current understanding of speaking up in the workplace. Most prior work on speaking up has focused on the antecedents that encourage individuals to speak up in the workplace, but significantly less work has examined how messages are heard and received by recipients. To this point, only a few studies have considered how the content of a message can influence the responses of a recipient, and the subsequent consequences to the messenger based on these responses (e.g., Chamberlin, Newton, & LePine, 2017; Whiting et al., 2012). My dissertation explicitly considers how the type of information a messenger is conveying can influence a respondent, such as a supervisor, and more specifically, how speaking up can have consequences for the messenger based on the recipient's response.

I explore these ideas in three interrelated studies. In the first study, I develop and validate a measure of sharing bad news based on the definition I develop in this dissertation. Second, I test my conceptual model using a field sample of employees and their supervisors at a beverage distribution company. One of the key purposes of this field study is to determine covariance between sharing bad news and employee effectiveness and offer a preliminary evaluation of the proposed hypotheses. Finally, the third study consists of a laboratory experiment designed to test the full conceptual model. The laboratory setting helps establish causality for the relationships in my model and rule out alternative explanations. I conclude my dissertation with a discussion of the implications of my results to both theory and practice. In sum, I examine how sharing bad news could have positive or negative implications for employees in terms of leader

evaluations of the employees' effectiveness. That is, I consider whether leaders reward employees who share bad news, or whether they instead shoot the messenger.

CHAPTER 2

LITERATURE REVIEW

In this chapter, I first review the literature on sharing bad news. Drawing on this prior work, I develop a definition of sharing bad news as it relates to employees' speaking up to their supervisor with critical mistakes and errors. Additionally, I compare my conceptualization of sharing bad news with other similar constructs that have assessed speaking up behaviors at work. Finally, I consider the importance of exploring outcomes of employees' sharing bad news, and focus in particular on the relevance of understanding supervisor responses.

Sharing Bad News: A Review of the Literature

The idea of sharing bad news was initially introduced into the scholarly literature by Rosen and Tesser (1970), who loosely defined bad news as messages containing undesirable information. In a laboratory study, the authors tested the "common sense notion that people will be more reluctant to communicate information which is negative rather than positive for the recipient" (p. 253), and indeed, found support for this hypothesis. That is, individuals were significantly less likely to share bad news messages than good news messages with a recipient. A subsequent field study confirmed these findings (Tesser, Rosen, & Tesser, 1971). The authors concluded that individuals were uncomfortable sharing negative information, but, perhaps more importantly, found evidence supporting the idea that participants in the study were concerned about how recipients would view or evaluate them if they shared bad news.

From these initial studies, a stream of research grew around what was referred to as the MUM effect (keeping Mum about Undesirable Messages; Tesser & Rosen, 1975),

and this body of work primarily considered the sharing of bad news from the perspective of the messenger. For example, scholars considered how characteristics and mood of the messenger influenced the sharing of bad news messages (Bond & Anderson, 1987; Tesser, Rosen, & Batchelor, 1972a; Tesser, Rosen, & Waranch, 1973). In addition, scholars found that individuals were more willing to share bad news with a bystander than with the target of a message (Tesser, Rosen, & Conlee, 1972), and were also more likely to delegate the sharing of bad news to someone else (Rosen, Grandison, & Stewart, 1974). These early studies firmly established the reluctance of individuals to share bad news, and the factors that made them more or less likely to share bad news messages.

As a part of this work, a smaller group of studies emerged that considered the role of the recipient in the willingness of the messenger to share bad news, but the findings of these studies were somewhat limited. For example, scholars found that qualities of recipients (Rosen, Johnson, Johnson, & Tesser, 1973), including their mood and emotion or affect (King, 1972; Tesser et al., 1972a), did little to encourage the sharing of bad news messages. However, scholars did find that when messengers felt an obligation toward the recipient, they were more likely to transmit bad news messages (Tesser, Rosen, & Batchelor, 1972b), and further, they were more likely to share bad news when the recipient was known to them than when the recipient was unknown (e.g., Rosen & Tesser, 1972). This suggests that the relationship between the messenger and recipient is important to the sharing of bad news. Additionally, Rosen and Tesser (1972) suggested that messengers were concerned about how recipients would evaluate them following the sharing of bad news. Specifically, the authors proposed that messengers would be less likely to share bad news if they thought they would be evaluated negatively. Although the

authors stopped short of testing the actual recipient responses, instead focusing only on a messenger's perceived responses, their study points to the idea that the sharing of bad news carries expectations of a response from a recipient, and these responses could be important in understanding if or how bad news is shared. However, these ideas were never fully developed or tested. In sum, the early work on sharing bad news focused primarily on bad news messengers, including whether or not these individuals would share bad news and under what circumstances.

As interest in understanding the sharing of bad news grew within organizational settings, this orientation toward the messenger remained prominent in two distinct ways. First, in response to the reluctance of messengers to speak up with bad news, scholars took a more practical and prescriptive approach to sharing bad news, focusing on how to deliver bad news effectively (Legg & Sweeney, 2014; Sweeney & Shepperd, 2007), an idea popularized by the media (Andersen, 2013; Bies, 2012; Gallo, 2015; Seim, 2014). For instance, Lee (1993) found that using politeness tactics helped convey the informational value of bad news messages to recipients. Further, Richter et al. (2016) found that training individuals to share bad news improved delivery of the message and increased perceptions of fairness among recipients. These studies focus on sharing bad news in ways that ensures the message is heard by recipients, but do not account for how recipients respond to the news once received.

Second, current work around sharing bad news in the workplace has focused on the manager or leader as “occupational delivers” of sharing bad news (Bies, 2013, p. 138). For example, managers are often responsible for sharing news about negative events, such as downsizing (Bean & Hamilton, 2006; Clair & Dufresne, 2004; Folger &

Skarlicki, 1998), hiring and firing decisions (Lavelle, Folger, & Manegold, 2014; Richter, König, Koppermann, & Schilling, 2016), and pay cuts (e.g., Greenberg, 1990).

Supervisors may also be responsible for providing negative feedback when employees are not performing effectively (e.g., Ilgen & Davis, 2000; Ilgen, Fisher, & Taylor, 1979), or turning down employee requests for resources (Izraeli & Jick, 1986). From this perspective, sharing bad news reflects communication about negative events and circumstances within the workplace, and is positioned as a behavior that is directed downward from managers to employees. In contrast to prior work, which considered the sharing of bad news a voluntary act (Rosen & Tesser, 1970; Tesser & Rossen, 1975), this perspective implies that sharing bad news is required because it is generally shared by leaders who assume this responsibility as part of their role within the organization.

To summarize, prior research on sharing bad news has largely focused on the act of sharing bad news and conditions under which a messenger chooses to share the information (or not) with a recipient. Initial work in this area found that individuals were hesitant to share bad news, and explored characteristics of the messenger that enhanced a willingness to share bad news. Within the workplace, prior work on sharing bad news has focused on the practical approaches to crafting a bad news message. In addition, studies examining sharing bad news at work have concentrated on significant workplace events (i.e., layoffs, downsizing) that are conveyed downward in an organizational hierarchy from managers to employees. Although informative, this prior work is limited in a number of ways.

First, by focusing on significant negative events that may occur irregularly within the workplace, previous studies have ignored the potentially more frequent opportunities

for sharing bad news that arise in organizations, such as the reporting of errors or mistakes that occur on a more regular basis in the context of ongoing work within organizations (e.g., Sellen, 1994; Zhao & Olivera 2006). In this regard, employees may frequently find themselves in a position to share bad news, as they are likely to be aware of work-related incidents prior to the leader or supervisor. Thus, it makes sense to view the sharing of bad news in terms of these smaller, more frequent events within the organization and focus on the role of the employee in conveying these messages.

Second, although there is value in understanding the best approach to communicating bad news messages, this literature has not clearly defined what it means to “share bad news,” particularly when bad news is considered in terms of employees’ sharing of mistakes or slip-ups (as opposed to leaders’ sharing news about major events, such as downsizing or pay cuts). Relatedly, it is also important to distinguish sharing bad news from other forms of speaking up. Scholars have offered a number of terms and concepts to describe different types of speaking up behaviors, and although sharing bad news shares common elements with some of these constructs, sharing bad news provides a unique perspective on employee speaking up that has not yet been adequately captured within the literature.

Finally, and perhaps most importantly, the explicit focus on whether or not bad news will be shared by messengers has overlooked the outcomes of sharing the news, particularly how the recipient responds to a messenger once bad news is delivered. Within the workplace, bad news messengers are likely to be employees, making the responses of their leader or supervisor particularly salient.

In the sections that follow, I offer a new conceptualization of sharing bad news that accounts for the sharing of bad news by employees, and offer a potential avenue forward for research that explores the importance of leader responses. First, I develop the concept of sharing bad news as employee communication of mistakes and errors to a leader, and offer a clear definition describing the behavior. Second, I distinguish sharing bad news from other constructs in the literature that have been used to describe related speaking up behaviors. Finally, having defined the concept, I consider the importance of understanding outcomes of sharing bad news, particularly how supervisors or leaders respond when employee share bad news.

A new perspective of sharing bad news in the workplace

As the previous section implies, bad news is not only communicated by leaders, but can also be shared by employees. This perspective deviates from prior research, and as such, it is important to establish a definition that clearly describes sharing bad news in a workplace context, and specifically as a form of information sharing initiated by employees. Prior work has offered some insight into what it means to share bad news. Perhaps most obviously, the denotation of “bad” news (as opposed to “good” news) implies that the information being shared is potentially harmful, unpleasant, or unwanted (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Thus, sharing bad news reflects communication of messages that are undesirable to the potential recipient (Rosen & Tesser, 1970). These definitions provide a general sense of what it means to share bad news, but they potentially describe a wide range of situation or events, some of which may not necessarily reflect “bad news.” In an attempt to clarify and extend the definition of sharing bad news, Bies (2013) borrowed from the medical literature and suggested that

sharing bad news reflects communication of “information that results in a perceived loss by the receiver, and. . . creates cognitive, emotional, or behavioral deficits in the receiver after the receiving of the news” (p. 137-8). The definition offered by Bies (2103) hints at the idea that bad news messages may require an input of effort, energy, or resources from the recipient. Although these existing definitions set the foundation of sharing bad news as something inherently unpleasant (e.g., Sweeney & Sheppard, 2007), none specifically describe what it means to share bad news within an organizational context, nor what constitutes sharing bad news from an employee perspective. Building on the current definitions, I suggest that there are a number of specific factors relevant to employees’ sharing of bad news within the workplace.

First, although major events, such as layoffs or pay cuts, are likely to be considered bad news due to their highly negative impact on the recipients, they are not the only type of situation that can be detrimental in the work environment. Mistakes and errors are common in the workplace (Reason, 1990; Zhao & Olivera, 2006), and can have distinct sets of causes and consequences. These minor mishaps can include breaking or damaging equipment, under- or over-charging customers for services, providing the wrong services or products, typos, and miscalculations, among others examples (e.g., Green, 2014, 2015; Leahcim, 2014). In addition, issues can arise when unexpected events occur, such as changes in environmental or weather conditions, leading to deviations in the plan of work (Hällgren, 2007; Söderholm, 2008). The impact of these seemingly small events can be equally consequently to the organization as events of a larger scale, such as economic costs or damaged reputation (Brodbeck et al., 1993; Goodman et al., 2011; Green, 2014, 2015; Zhao & Olivera, 2006). Thus, mistakes, errors, and deviations

can be considered “bad news” in the sense that the potential outcomes are undesired. Further, the nature of mistakes and errors suggest that employees are the individuals most likely to observe or experience them when they occur. That is, employees are often responsible for completion of tasks and duties that are directly tied to unit or organizational goals and outcomes (e.g., Aguinis, 2009; Borman & Motowidlo, 1993; Gallo, 2011; Rotundo & Sackett, 2002). When mistakes occur within the work unit, employees are the most likely individuals to recognize discrepancies between the intended and actual goals or outcomes (e.g., Reason, 1990). Consequently, sharing bad news within organizations involves communication of these mistakes and errors.

Second, and implied by the previous point, a key feature of sharing bad news is that the information being conveyed is unknown to the recipient. When bad news is shared, it creates a disruption in normal routines, and signals a breakdown in taken-for-granted expectations about what should happen (Maynard, 2003). In organizations, leaders expect that goals and objectives of their unit will be met, and bad news in the form of mistakes, errors, and deviations, introduces the possibility that these expectations will not be achieved. In this regard, sharing bad news suggests an altered view of the future that was not anticipated by the recipient (Buckman, 1984). Whereas prior definitions have focused exclusively on the negative affect and sense of loss associated with the sharing of bad news (Bies, 2013; Maynard, 2003), this perspective shifts attention to the unexpectedness of sharing bad news messages that causes the recipient to reevaluate their expectations of the situation.

Finally, in addition to identifying what is communicated, it is also relevant to consider with whom the information is begin shared. As the previous paragraph implies,

bad news in the form of mistakes and errors can range from begin relatively benign to highly impactful, but all bad news messages, regardless of severity, are communicated due to an underlying need for resolution or correction. In other words, bad news implies a deviation in the plan of work, and that in order to meet expectations or objectives, action will need to be taken to resolve the issue. The notion that action may be required aligns with Bies (2013) conceptualization of sharing bad news, which alludes to the potential investment of the recipient. Further, resolution of the situation likely requires a remedy that extends beyond the employees' knowledge or abilities (e.g., if the employee could fix the problem easily, goals and objectives would still be met and there would be no bad news to share). As such, bad news is most appropriately directed toward individuals, such as supervisors or leaders, responsible for the work unit or team who have a distinct interest in addressing the issue and have access to the skills or resources necessary to do so (e.g., Judge & Piccolo, 2004). In other words, bad news is likely to be shared with individuals whom will be impacted by the news, but who also have the means to help resolve the issue.

In sum, several factors make employees' sharing bad news in the workplace a unique form of communication. Bad news message content is likely to reflect mistakes, errors, and deviations related to work tasks and processes, and these events are likely to go undetected by others unless shared by employees. Further, bad news messages are likely delivered to individuals who may be surprised to hear the news, but can ultimately help resolve the situation. In considering each of these points, I formally define sharing bad news as *communication of closely held information regarding errors, mistakes, deviations, or other negatively valenced events which vary in severity and may require*

action or remediation on the part of the recipient who is not likely to know about the issue, but who is responsible for the unit of work in which the issue occurs. Extending prior conceptualizations of sharing bad news, the definition and conceptualization I use here more firmly grounds sharing bad news within the organizational context and as a behavior enacted by employees.

Comparing sharing bad news to other similar constructs

Although this revised conceptualization positions the sharing of bad news more firmly within the organizational context, it also highlights similarities to a number of other constructs. For instance, the current conceptualization of sharing bad news incorporates the idea of speaking up at work. Indeed, the “sharing” of bad news directly implies communication of messages to relevant others. Consequently, it is important to consider other constructs that similarly reflect speaking up, such as voice (generally) and prohibitive voice (specifically), whistleblowing, upward communication, and issue selling. Further, sharing bad news offers insight to the effectiveness of work tasks and processes, suggesting it may also be relevant to compare sharing bad news with feedback, and particularly negative feedback. Finally, as the content of bad news messages is likely to be mistakes and errors, it is worthwhile to consider how the sharing of bad news differs from error reporting. I consider each of these constructs in more detail below.

Voice. A key aspect of sharing bad news is the implication that individuals speak up with critical information. As such, one of the most important constructs to consider alongside sharing bad news is voice. Much like sharing bad news, voice is a voluntary expression directed internally within the organization (Maynes & Podsakoff, 2014; Morrison, 2014). However, unlike sharing bad news, voice is used by employees with the

clear intention of influencing the work environment (Maynes & Podsakoff, 2014). More specifically, individuals speak up with ideas, suggestions, and concerns in order to improve organizational functioning by terminating or changing a current practice (Morrison, 2011, 2014; Van Dyne & LePine, 1998). When employees use voice, their underlying purpose is to alter the status quo. In contrast, when employees share bad news, they are calling attention the fact that the status quo has already changed. That is, sharing bad news reflects informative communication about events that have already happened whereas voice consists of ideas and opinions about work-related issues that could change organizational functioning in the future. Thus, sharing bad news differs from voice both in the intention behind the communication, as well as the type of information being delivered in the message.

Prohibitive voice. The concept of employee voice generally has manifest in a number of more specific forms, and of particular relevance to sharing bad news is prohibitive voice. Whereas voice generally consists of work-related ideas or concerns intended to change the work environment, prohibitive voice reflects communication regarding problems in the work environment (e.g., Morrison, 2011), including work practices, incidents, or behaviors that could be harmful to the organization (Liang, Farh, & Farh, 2012). In this regard, sharing bad news and prohibitive voice are similar in that both types of communication indicate a situation or problem that could have negative consequences to the work unit or organization. In spite of the similarities in message content, sharing bad news and prohibitive voice differ in the potential implications of the message. Prohibitive voice points to organizationally-embedded issues that could be harmful generally (Liang et al., 2012), and is proactive in the sense of calling attention to

policies or practices that need to be stopped or altered in order to prevent damaging outcomes for the organization. Bad news messages are tied directly to specific goals or objectives of the unit or organization, and when these messages are shared, it indicates a discrepancy in meeting these goals or objectives. Unlike prohibitive voice, sharing bad news is reactive, and reflects that mistake or error that has already occurred. Instead of potentially preventing a problem, sharing bad news indicates an incident has happened, and that remediation is required in order to meet expectations or goals. As an illustration, a prohibitive voice message may suggest that current shipping practices are inefficient and could result in customers not receiving orders on time. Addressing the issues associated with prohibitive voice could benefit the unit or organization by preventing current or future problems. Using the same example, sharing bad news may convey that an order did not reach a customer within the expected shipping window. In the case of sharing bad news, the incident has already occurred and remediation is necessary to realign work tasks or processes with the expected unit or organizational goals. In short, sharing bad news refers to specific and immediate instances that have the potential to disrupt unit or organizational functioning whereas prohibitive voice identifies more general issues that could be harmful to the organization.

Whistle-blowing. As mentioned above, sharing bad news, like prohibitive voice, refers to situations or events in the work environment that are undesirable, or could have negative consequences. Similarly, whistle-blowing also refers to expressions regarding workplace activities which could be damaging to the organization. More specifically, whistle-blowing is defined as “organization members’ disclosure of illegal, immoral, or illegitimate practices under the control of their employers, to parties who may be able to

effect action” (Miceli & Near, 1985, p. 525). Although this definition initially sounds somewhat similar to the concept of sharing bad news, these two constructs differ in three distinct ways. First, and perhaps most critically, whistle-blowing refers explicitly to activities that are unethical or illegal, and does not include situations or incidents where the behavior or activity is accidental or misguided (Miceli, Near, & Dworkin, 2009). Sharing bad news represents communication regarding deviations that are unexpected or unplanned. Unlike whistle-blowing, which implies ongoing or even institutionalized wrongdoing, sharing bad news describes one-time events which disrupt the expected work process. Second, whistle-blowing calls out organizational policies and practices that violate legal or ethical norms or values. As mentioned, sharing bad news refers to discrepancies related to the work itself, not the policies or practices related to work. Third and finally, both sharing bad news and whistle-blowing involve the sharing of information with those who have the ability to resolve the problem. However, whereas bad news messages are shared only with recipients who are internal to the organization, whistle-blowing often involves sharing information to recipients who are external to the organization (Miceli & Near, 1985, 2002; Near & Miceli, 1996). Based on these differences, sharing bad news can clearly be conceptually distinguished from whistle-blowing.

Upward communication. Though not explicitly stated within the definition, sharing bad news implies that messages are communicated upward to an individual, such as a leader or supervisor, who has the skills, resources, or authority to address the issue. As such, it is important to clarify how sharing bad news differs from other constructs that capture the notion of conveying messages upward in the organizational hierarchy, such as

upward communication. Upward communication refers to the sharing of information by lower members to higher members within the organizational hierarchy (Athanassiades, 1974; Morrison, 2011; Roberts & O'Reilly, 1974), and can include information about the subordinate, the work unit, organizational practices or policies, or issues relevant to the completion of work tasks (Glauser, 1984). Upward communication is similar to upward voice, which reflects the expression of work-related ideas to leaders or supervisors (Liu, Song, Li, & Liao, 2017). The concept of upward communication is broad in the sense that it can include many different types of messages, which differs from the narrow focus on mistakes, errors, or deviations in work tasks or processes inherent to sharing bad news. Following from this, sharing bad news presents issues that likely need redress by the recipient because they interfere with the effective completion of work. Upward communication does not necessarily impose the same urgency on a recipient to respond, as the message is likely to convey new ideas, information relevant to tasks, or requested reports (Morrison, 2011) and not information regarding problems or issues, as is the case when sharing bad news. In sum, upward communication is an encompassing concept that describes the sharing of information upward generally whereas sharing bad news describes communication regarding specific issues that are potentially problematic to the work group or organization.

Issue selling. Related to the idea of upward communication is the notion of issue selling, which describes the voluntary efforts of employees to influence the organizational agenda by focusing the attention of those above them on issues that are particularly important to the employee (Ashford, Rothbard, Piderit, & Dutton, 1998; Dutton & Ashford, 1993; Dutton, Ashford, Lawrence, Miner-Rubino, 2002). Issue selling

is not just communicating upward, but a distinct attempt to influence supervisors and leaders within the organization (Ansari & Kapoor, 1987). In this regard, sharing bad news is clearly distinct from issue selling because sharing bad news is not intended to persuade leaders that a message is important, but instead to alert the recipient of important incidents or situations that have occurred. Further, issue selling involves persuading supervisors or leaders that certain ideas or trends merit attention (Dutton & Ashford, 1993; Morrison, 2011), and suggests that the organization or individual could benefit by addressing the particular issue (Ashford et al., 1998). By drawing attention to key issues, the underlying purpose of issue selling is to call attention to opportunities that may have the potential to affect positive organizational change. The purpose of sharing bad news, in contrast, is to identify factors that may directly inhibit the achievement of unit or organizational goals or outcomes.

Negative Feedback. In addition to constructs that describe different types of speaking up in the workplace, sharing bad news also has some potential commonality with the concept of feedback, and particularly negative feedback. In a general sense, feedback describes the communication of a message from a sender to a recipient that provides information about the recipient's past performance (Ilgen et al., 1979; Larson, 1984). Although some forms of feedback incorporate subordinate input (e.g., 360 degree feedback; Atwater & Brett, 2005; Brett & Atwater, 2001), feedback is most frequently delivered by supervisors to their subordinates, or from peer to peer (e.g., Fedor, Eder, & Buckley, 1989; Ilgen et al., 1979). Thus, one of the key distinctions between sharing bad news and feedback generally is the direction the information is shared, as sharing bad news implies communication upward to those who are responsible for the work unit,

generally a supervisor or leader. In thinking more specifically of negative feedback, or messages that convey a discrepancy between actual performance and the standards or expectations for performance (Podsakoff & Farh, 1989), sharing bad news similarly conveys a discrepancy between actual and expected outcomes. However, unlike negative feedback, the purpose of sharing bad news is not to convey information regarding the recipient's performance. Although mistakes, errors, or deviations could provide an indirect indication of a supervisor's effectiveness within the work unit, the underlying reason for sharing bad news is to alert the supervisor that something has gone wrong, not to speculate on what these mishaps may imply with regard to the supervisor's performance.

Error reporting. Finally, sharing bad news is also conceptually distinct from error reporting. Error reporting can be defined as formal communication of errors or mistakes to supervisors or leaders (Zhao & Olivera, 2006), and this definition is different from sharing bad news in two ways. First, error reporting only refers to communication about mistakes or errors made by individuals (Zhao & Olivera, 2006) whereas sharing bad news has a wider reach, including not only mistakes, but also unexpected events or deviations related to the work that potentially inhibit achievement of goals or outcomes. Second, and perhaps more importantly, error reporting refers to an official process of communicating issues when something has gone wrong. Sharing bad news is an informal employee behavior. That is, employees choose to share bad news on their own volition, not because organizational policy or practice compels them to do so in a certain way or following a certain protocol.

As these comparisons demonstrate, sharing bad news represents a unique type of employee behavior that is distinctly different from other similar constructs, including (prohibitive) voice, whistle-blowing, upward communication, issue selling, negative feedback, and error reporting. By clearly defining and differentiating the sharing of bad news, it is possible to consider the possible implications of sharing bad news within the workplace. More specifically, I suggest that sharing bad news could have distinct implications for the messenger.

The importance of understanding responses to sharing bad news

As my definition of sharing bad news suggests, employees share bad news as a means of communicating critical information. Sharing bad news draws attention to issues that might otherwise go unnoticed, but are likely to inhibit successful completion of work tasks if not addressed. Consequently, employees should be encouraged to share bad news because the information communicated could impact organizational functioning. However, employees may not always speak up with bad news messages. For instance, employees may withhold information when they are in positions of lower power than the recipient and do not perceive the recipient to be open to receiving the information (Morrison, See, & Pan, 2015). Further, bad news messages have an inherently negative tone (e.g., Rosen & Tesser, 1970) because they illuminate problems or discrepancies. Negative events or situations are likely to have a stronger impact on the message recipient compared to neutral or positively-valenced messages (Baumeister et al., 2001). As such, recipients may feel threatened by the sharing of bad news and may reject or deny messages that contain this type of unwanted information (e.g., Morrison & Milliken, 2000; Steelman & Rutkowski, 2004). In the workplace, recipients of bad news messages

(i.e., supervisors or leaders) can have a distinct influence on whether or not employees are willing to share crucial information. Indeed, scholars have shown that employees are sensitive to managerial responses when communicating upward (e.g., Burris, 2012; Detert & Burris, 2007; Dutton, Ashford, O'Neill, Hayes, & Wierba, 1997). To this end, it is important to understand how leaders respond when bad news is shared, as their responses are likely to influence whether or not individuals will choose to share bad news again in the future.

Although it may be possible to draw from research on related topics, such as voice or whistle-blowing, to identify how negative forms of speaking up at work can influence outcomes, such as evaluations of effectiveness (e.g., Chamberlin et al., 2017), sharing bad news, as defined here, has unique qualities that make it difficult to apply this prior research directly. For example, sharing bad news accounts for the day-to-day mistakes or slips that happen in organizations. Other scholarly work that has explored the concept of sharing bad news has only considered large-scale organizational events that occur infrequently in the workplace. Further, sharing bad news is a reactive behavior: when employees share bad news with a leader, their action of doing so indicates that the status quo has changed, and that something has occurred which likely hinders or prevents task completion or goal attainment. Many forms of speaking up, such as voice, focus on proactive behaviors, or offering suggestions to change the status quo in ways that would benefit the organization. Finally, sharing bad news requires a response from the leader. That is, the nature of the communication suggests that something is wrong and needs to be fixed or remediated, and the leader is likely the person responsible for ensuring that the issue is resolved. Other forms of speaking up do not require the response or action of

a leader or supervisor to this same extent, if at all. In sum, existing constructs within the literature do not capture the concept of sharing bad news in the workplace. As such, relationships between existing speaking up concepts and outcomes, such as employee effectiveness, do not accurately convey how leaders view or respond to sharing bad news specifically. In the following chapter, I explore this idea further and develop a model that accounts for leader responses when employees share bad news.

CHAPTER 3

THEORY AND HYPOTHESES

The purpose of this chapter is to develop theory and hypotheses that explain the relationship between the sharing of bad news by employees and the response of leaders to this particular type of information sharing. As discussed earlier, understanding this relationship is important, as the content of bad news messages can be critical to the unit or organization, and leader responses can influence the extent to which employees are willing to speak up (e.g., Chamberlin et al., 2017; Detert & Burris, 2007; Liu, Zhu, & Yang, 2010; Milliken et al., 2003). More specifically, I suggest that the relationship between sharing bad news and leader responses is not a direct path, and consider the role of challenge and hindrance appraisals, as well as the role of social exchange in the form of leader-member exchange, as the mediating mechanisms through which the effects of sharing bad news are transmitted to leader responses. In addition, I suggest that aspects of message delivery, such as timeliness and the inclusion of solutions, may influence how supervisors appraise the sharing of bad news. Finally, I consider how the extent to which a messenger is responsible for the bad news being shared may influence the exchange relationship between the employee and supervisor following the appraisal process. A full depiction of my theoretical model is shown in Figure 1.

Sharing Bad News and Supervisor Evaluations of Employee Effectiveness

As defined in the previous chapter, sharing bad news describes communication of information regarding errors, mistakes, or deviations that may require action on the part of the recipient who is not likely to know about the issue, but who is responsible for the unit of work in which the issue occurs. Based on this definition, it is possible that sharing

bad news could be useful or helpful to leaders in a number of ways. For example, when employees share bad news, it directs leaders' attention to critical issues that could influence successful completion of team or organizational goals. Receiving this information can offer leaders an opportunity to adapt their plan of work to mitigate the potential negative outcomes of the bad news (e.g., LePine, 2003, 2005). Further, communication of bad news can also stimulate learning (e.g., Edmondson, 1996; Hofmann & Stetzer, 1998) and foster innovation (Harteis et al., 2008; van Dyck et al., 2005) because it initiates a process of problem-solving to address the issue. Sharing bad news may allow leaders to eliminate or reduce the negative consequences of mistakes or errors and engage in activities that improve work practices (van Dyck et al., 2005). As a result of these benefits, leaders may reward employees for sharing bad news with higher evaluations of effectiveness.

However, although sharing bad news could lead supervisors to evaluate employees favorably, it may also lead supervisors to rate employees as less effective. For instance, employees' sharing of bad news can place a burden on the supervisor. As the definition of sharing bad news suggests, supervisors are likely unaware of the bad news event, which implies that they may be unprepared to handle the problem or situation. In addition, employees share bad news because a resolution is required, and the supervisor is ultimately responsible for ensuring that the issue is addressed. As such, the supervisor will likely expend significant energy and resources in addressing the bad news incident (e.g., Bies, 2013). These negative implications of sharing bad news for leaders suggest that leaders may punish employees for sharing bad news with lower evaluations of

effectiveness. Given that leaders may respond to the sharing of bad news with either higher or lower evaluations of effectiveness, I propose the following hypotheses:

Hypothesis 1a: Sharing bad news is positively related to supervisor evaluations of employee effectiveness.

Hypothesis 1b: Sharing bad news is negatively related to supervisor evaluations of employee effectiveness.

Sharing Bad News as a Form of Social Exchange

One way to understand how employees' sharing bad news may influence supervisor responses is through a lens of social exchange. Rooted in theories of psychology and economics, the basic premise of social exchange theory is that "an individual who supplies rewarding services to another obligates him. To discharge this obligation, the second must furnish benefits to the first in turn" (Blau, 1964, p. 89). In other words, when individuals engage in behaviors that provide a tangible or intangible item to another individual, that other person must reciprocate with an item in kind in order to reduce feelings of obligation. However, unlike strictly economic exchanges, the obligations generated through social exchange are unspecified and open-ended (e.g., Blau, 1964; Cropanzano & Mitchell, 2005), suggesting that although individuals are likely to reciprocate an exchange (e.g., Gouldner, 1960), how and when they choose to do so are not necessarily clear or direct. Further, social exchange theory does not account for isolated events, but instead describes an exchange relation as a series of interactions that generate obligations (Emerson, 1972b, 1976; Cropanzano & Mitchell, 2005). That is, there is an ongoing flow of reciprocated behavior between each participant in the exchange. Behaviors are voluntary and motivated by the potential benefits of expected

reciprocity (Blau, 1964; Gouldner, 1960; Molm, Takahashi, & Peterson, 2000).

Individuals continue to initiate exchanges, or transactions, because they believe that doing so will elicit a desired response from the other participant. In this regard, exchanges are mutually reinforcing (Emerson, 1972a; Gouldner, 1960; Homans, 1958) wherein the behavior of one participant in the exchange will influence the way in which the other participant chooses to respond.

In the workplace, one of the most important exchange relations that can develop is that between an employee and supervisor, and scholars have shown that employees distinguish their exchange relationships with leaders from their relationships to the organization more generally (Masterson, Lewis, Goldman, & Taylor, 2000; Settoon, Bennett, & Liden, 1996; Wayne, Shore, Bommer, & Tetrick, 2002; Wayne et al., 1997). Indeed, scholars have studied this type of relationship extensively (e.g., Gerstner & Day, 1997), and the idea of social exchange forms the foundation of leader-member exchange theory (Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997). Whereas social exchange theory emphasizes the ongoing exchange process that creates mutual obligations between individuals, such as supervisors and their employees (Blau, 1964; Emerson, 1972a; Homans, 1958), leader member-exchange theory has grown to focus on the quality of the exchange relations between leaders and their followers and the implications of this dyadic structure (e.g., Liden, et al. 1997). The leader-member exchange construct (LMX) captures the social exchange relationship that exists between employees and their supervisors (Masterson et al., 2000; Settoon et al., 1996; Wayne et al., 1997). Exchange relations between employees and leaders are based upon the valued resources that each can offer the other (Liden, et al. 1997). At the most basic level,

leaders provide their followers with the necessities to perform their job and employees reciprocate by completing job tasks and duties (Graen & Uhl-Bien, 1995). As exchange relationships grow over time, the types of resources exchanged can become more varied as both supervisors and employees develop personal feelings of obligation, gratitude, and trust (Blau, 1964).

Our understanding of exchange relations between supervisors and employees is informed by considering more specifically the types of resources that are exchanged during transactions. To this end, Foa & Foa (1974, 1980) offer a typology of resources that categorizes the content of an exchange into six categories, including money, goods, services, status, affiliation, and information. Money reflects any form of currency with a standardized exchange value; goods refer to material objects or products; services involves acts performed for another individual; status reflects perceptions of value or esteem; affiliation generally refers to expressions of affectionate regard, warmth, and support; information describes the sharing of data, knowledge, advice, opinions, or instruction (Foa & Foa, 1980; Wilson, Sin, & Conlon, 2010). Bad news is a specific type of information that can be shared between supervisors and employees.

Although supervisors and employees can have transactions involving any of these resources, Wilson, Sin, and Conlon (2010) suggest that certain resources are more likely than others to be exchanged, and that the patterns of exchange between employees and supervisors can be understood in terms of the underlying dimensions of resources.

According to Foa and Foa (1974, 1980), resources vary along two dimensions, particularism and concreteness. The first dimension, particularism, describes the extent to which the value of the resource is based on its source, or individual initiating the

exchange (Foa & Foa, 1974, 1980). For instance, exchanges that involve money may be considered less particularistic because the source is likely irrelevant as long as payment is made. In contrast, exchanges that involve status or friendship may be more particularistic because these resources are likely to be more meaningful or valuable when delivered by a specific individual, not just any source. The second dimension, concreteness, describes the extent to which a resource is tangible or specific (Cropanzano & Mitchell, 2005). A resource is considered more tangible in nature when the meaning of the exchange is easily observable or certain. When the meaning of the exchange is ambiguous or representative, the resource is instead considered symbolic in nature. Thus, resources are more concrete when they are more tangible and less symbolic. For example, goods and services may be considered more concrete because they involve the exchange of material products or a set of clearly defined behaviors. Information, such as bad news, may be considered less concrete in that the meaning of the behavior represents something beyond the message itself, and is open to greater interpretation by the receiver.

Taken together, these two dimensions, particularism and concreteness, help distinguish the types of exchanges that occur between supervisors and employees. For instance, when resources are less particularistic and more concrete, the exchange tends to be economic in that it likely addresses “financial needs and tends to be tangible” (Cropanzano & Mitchell, 2005, p. 881). In these economic transactions, both parties tend to view the exchange as a direct trade or barter because the resource being given, such as money or goods, is quantifiable in terms of costs, value, or time (e.g., Blau, 1964). As mentioned previously, these types of exchanges can form the basis of transactions between supervisors and employees, but as Wilson et al. (2010) point out, these

exchanges are more likely to be initiated by supervisors. That is, supervisors are more likely to have access to money (e.g., pay raises) or goods (e.g., tangible resources) that they can exchange with employees, whereas employees are less likely to be able to directly provide supervisors with either money or goods.

However, employees do have greater flexibility to provide supervisors with resources that are less concrete and more particularistic, such as status, affiliation, service, and information (Wilson et al., 2010). For instance, employees can provide leaders with respect and admiration (status), commitment and loyalty (affiliation), effort and performance (service), and information regarding other employees or departments (information) (Wilson et al., 2010). It should be noted that although leaders can also exchange these resources with employees, the specific form of each resource that leaders provide to employees differs from what employees provide to supervisors. As this dissertation focuses on employee behaviors (i.e., sharing bad news) that stimulate leader responses, I maintain a focus on resources that employees can share upward with leaders. Of the resources that employees potentially share with leaders, I focus in particular on information because it can have direct implications to the exchange relationship.

Exchange relations between employees and supervisors are built on trust, and each transaction between an employee and supervisor reinforces the exchange relationship by building on a sense of mutual trust (Blau, 1964; Brower, Schoorman, & Tan, 2000). Employees' sharing information reflects a transaction that influences a leaders' sense of trust of the employee. When information is shared, it offers the recipient new insight and can influence her or his judgment (Davenport & Prusak, 1998), not only about the situation, but also about the messenger. That is, the act of sharing information

may lead supervisors to infer characteristics of the employee, and in particular, sharing information can have implications for how supervisors perceive an employees' trustworthiness. Trustworthiness is a key antecedent of trust and helps facilitate the mechanism of social exchange (Blau, 1964; Colquitt, Scott, & LePine, 2007; Mayer, Davis, & Schoorman, 1995; Zapata, Olsen, & Martins, 2013). Thus, when employees share information, they send signals about their own trustworthiness, and supervisors' perceptions of employees' trustworthiness can facilitate the exchange relationship by influencing supervisors' feelings of trust and obligation.

A key underlying assumption of social exchange is that transactions, such as sharing information, will enhance the exchange relationship because they increase an employees' perceived trustworthiness. However, this assumption does not necessarily hold true when specifically considering the sharing of bad news. Sharing bad news reflects a unique type of information exchange in that the transaction could enhance or weaken perceived trustworthiness of the messenger. For instance, sharing bad news reflects critical information that a supervisor is not likely to know about immediately, but has a responsibility to resolve. Receiving bad news could therefore be beneficial to supervisors because it draws their attention to important issues. To this end, supervisors may feel that employees have acted with benevolence, or a desire to "do good" toward the supervisor without any profit motive (Mayer et al., 1995). Sharing bad news reflects employees' care and support of the supervisor, and suggest a willingness to be open, factors that all contribute to positive perceptions of trustworthiness and subsequent trust (Colquitt et al., 2007; Zapata et al., 2013). In addition, sharing bad news may suggest that employees are reliable and willing to do what they believe is right, factors that could

increase supervisors' perceptions of an employee's integrity, or adherence to a set of clear moral or ethical principles (Colquitt et al., 2007; Mayer et al., 1995). Employees perceived to have greater integrity are more likely to be trusted by supervisors (Zapata et al., 2013), which in turn, is likely to enhance the exchange relationship between supervisors and employees, as reflected by LMX.

Although sharing bad news can enhance the exchange relationship, there are also reasons to believe that the exchange relationship may be weakened when employees share bad news. For example, sharing bad news creates an expectation that supervisors need to take action in order to resolve the issue. Thus, sharing bad news may increase a supervisor's workload and supervisors may feel that this increased demand inhibits their personal growth (e.g., Cavanaugh et al., 2000; LePine, Podsakoff, & LePine, 2005). Supervisors may believe employees to be less trustworthy because they are not looking out for the supervisors' best interests. Further, when employees share bad news, supervisors may conclude that employees lack the ability, or skills and competencies necessary for the job (Colquitt et al., 2007; Mayer et al., 1995), to complete their assigned duties or tasks effectively. Employees who are perceived as less competent in job tasks are less likely to develop strong exchange relations with supervisors (e.g., Graen & Scandura, 1987). In addition, sharing bad news may reflect a behavior that deviates from expected interactions. Supervisors are more likely to feel trusting of employees when their behavior is predictable (e.g., Butler, 1991; Gabarro, 1978; Whitener, Brodt, Korsgaard, & Werner, 1998), and sharing bad news may reflect a lack of consistency that destabilizes the exchange relationship by reducing trust. In sum, sharing bad news may weaken the exchange relationship between employees and supervisors because it depletes

a sense of trust and leads supervisors to believe that they are not valued by their employees, or that their employees lack competency or ability in work tasks. As such, sharing bad news could also be negatively related to LMX.

Hypothesis 2a: Sharing bad news is positively related to LMX.

Hypothesis 2b: Sharing bad news is negatively related to LMX.

The exchange relationship that employees form with their leaders also has implications for how leaders respond to the sharing of bad news. As sharing bad news reflects an exchange that is more particularistic and less concrete, it can be considered more socially-based (as opposed to economically-based). That is, when employees share bad news, it obligates their supervisor to reciprocate, and a supervisor's particular response could take many forms (e.g., Blau, 1964). For instance, supervisors may respond to social exchanges by sharing resources, offering opportunities, providing social support to employees, or assessing employee effectiveness (Graen & Uhl-Bien, 1995; Liden et al., 1997). Although each of these responses may be valuable, perhaps most significant is how leaders respond in terms of employee effectiveness. Evaluations of effectiveness can have distinct implications for employees, such as the extent to which they receive access to benefits (e.g., Aguinis, Joo, & Gottfredson, 2013) or have opportunities to advance within the organization (Igbaria & Baroudi, 1995). Empirically, scholars have demonstrated that supervisors play a significant role in whether or not employees choose to speak up in the workplace (Burris, 2012; Chamberlin et al., 2017; Detert & Burris, 2007; Morrison, 2011, 2014), and when supervisors make assessments of an employee's effectiveness in the workplace, it can subsequently encourage or discourage employees from sharing bad news in the future.

When employees share bad news, it triggers an exchange between an employee and supervisor. As hypothesized above, this transaction could increase or decrease the quality of the exchange between an employee and supervisor, or LMX. In turn, the exchange relationship is likely to influence how supervisors reciprocate the sharing of bad news in terms of evaluations of employee effectiveness. Prior work has suggested that higher quality exchange relationships will positively influence the extent to which employees are rated favorably (Gerstner & Day, 1997), suggesting that to the extent sharing bad news enhances LMX, supervisors will be more likely to evaluate employees with higher levels of effectiveness.

Hypothesis 3: LMX is positively related to supervisor evaluations of employee effectiveness.

Hypothesis 4a: LMX mediates the relationship between sharing bad news and supervisor evaluations of employee effectiveness such that the indirect effect is positive.

Hypothesis 4b: LMX mediates the relationship between sharing bad news and supervisor evaluations of employee effectiveness such that the indirect effect is negative.

Using a social exchange perspective helps to explain the relationship between employees' sharing of bad news and leader responses, specifically supervisor responses in terms of employee effectiveness. Employees develop ongoing exchange relations with their supervisor (i.e., LMX) that are maintained through mutually reinforcing behaviors (Homans, 1958). When employees share bad news, it reflects the initiation of an exchange that is socially-based, and obligates supervisors to respond, which they are

likely to do with evaluations of employee effectiveness. However, although social exchange theory suggests supervisors will reciprocate when employees share bad news, we still lack clarity on how supervisors view these messages and subsequently respond. As bad news contain critical information relevant to the completion of work tasks and goals, supervisors may construe the sharing of these messages as a useful and valuable behavior. Thus, supervisors would likely respond to sharing bad news with positive evaluations of employee effectiveness. At the same time, sharing bad news could arouse feelings of threat or stress, and supervisors may respond with negative evaluations of employee effectiveness. The next section explores each of these potential pathways in more detail.

The Appraisal Process

The process of social exchange offers insight as to why leaders react to employees who share bad news, but it does not explain how they form assessments about the bad news that determine whether they will respond by rewarding or punishing the employee. One approach to understanding the mechanism through which sharing bad news influences LMX and subsequent leader responses is through the transactional theory of stress (Lazarus & Folkman, 1984). According to this theory, individuals encounter demands in the environment which have the potential to tax their resources and endanger their well-being. Individuals then engage in a cognitive appraisal process to understand the meaning and significance of the demand. Although Lazarus and Folkman (1984) distinguished between a primary appraisal, or assessment of the relevance of the demand, and a secondary appraisal, or assessment of how demands can be managed, the conceptualization of appraisal in this study refers specifically to the primary appraisal.

During the appraisal process, individuals reconcile the realities of a situation with their personal interests, and assess the degree to which demands relate to goal relevance, goal congruence, and personal well-being (Lazarus & Folkman, 1984; Lazarus, 1991).

Demands are determined to be irrelevant or benign when they have little to no impact on goals and individuals do not have a personal stake in the issue. In contrast, demands are considered stressful when they are directly connected to goals and individual well-being is tied to outcomes.

The sharing of bad news can be viewed as this type of stress-inducing demand. That is, bad news messages are inherently tied the goals of the unit or organization and to the extent that a leader's success within the organization is tied to goal attainment (e.g., Locke, Shaw, Saari, & Latham, 1981; Wright, George, Farnsworth, McMahan, 1993), bad news messages will fuel leader's personal interest and influence their well-being. In other words, when bad news messages are shared, it alerts leaders to discrepancies in work task or processes that interfere with the unit or organizational goals or outcomes for which the leader is responsible, making it likely that they will invest resources and effort in order to resolve the issue.

Demands that are judged to be stressful can more readily be considered as those which are challenging, or have the potential for rewards, gain, growth, and mastery of desired outcomes, and those which are hindering, or have the potential for harm, loss, or constraint of desired outcomes (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus & Folkman, 1984; LePine, Zhang, Crawford, & Rich, 2016; Webster, Beehr, & Love, 2011). Whereas many demands in the work environment have been commonly associated with one type of appraisal (Cavanaugh et al., 2000; LePine et al.,

2016), some demands, such as the sharing of bad news, have the potential to be appraised as both (Lazarus & Folkman, 1984; Webster et al., 2011). For instance, sharing bad news highlights mistakes and errors that could, through the process of correcting or resolving the issue, lead to learning, innovation, and adaptation (Harteis et al., 2008; Edmondson, 1996; Sitkin, 1992; Zhao & Olivera, 2006). In this regard, leaders may view the sharing of bad news as an opportunity to make work tasks and processes more effective and realign goals and expectations with actual outcomes. In addition, sharing bad news could enhance personal growth by encouraging skill-building and mastery of job responsibilities in ways that help prevent similar mistakes in the future. Thus, leaders could perceive the sharing of bad news to be rewarding because employees are pointing to ways in which work processes or practices could be improved (Harteis et al., 2008) and simultaneously providing development opportunities for the leader (Lazarus & Folkman, 1984) that make them more willing to invest their time and resources (e.g., Crawford, LePine, & Rich, 2010).

Yet at the same time, the sharing of bad news messages could also be conceived as threatening or harmful because signals a deviance in task completion or goal achievement. Addressing the specific issue contained within a bad news message could incur costs (Brodbeck et al., 1993) or reflect losses in productivity due to time spent correcting an issue (e.g., van Dyck et al., 2005). When employees share bad news, they may also expose problems that are not easily remedied or for which the leader does not have the skills or experience to fix. Consequently, leaders may view the sharing of bad news as constraining, and because they believe that the time and effort invested will not

be rewarded (LePine et al., 2016), leaders may disengage from the issue or ignore it completely (e.g., Crawford et al., 2010; Pearsall, Ellis, & Stein, 2009).

Hypothesis 5a: Sharing bad news is positively related to challenge appraisals.

Hypothesis 5b: Sharing bad news is positively related to hindrance appraisals.

Outcomes of appraisals

A leader's appraisal of sharing bad news messages has a distinct impact on the exchange relationship between the leader and the employee. When leaders evaluate messages as challenging, they believe that they have the capacity to resolve the issue, and that they will be rewarded for successful mastery of the situation. Thus, the outcome of the message will ultimately enhance a leader's personal well-being (Lazarus & Folkman, 1984; Lazarus, 1991; LePine et al., 2016; Webster et al., 2011), suggesting that by sharing bad news, a messenger has contributed directly to a leader's growth and gain. Further, challenge appraisals are often accompanied by feelings of excitement or eagerness (Lazarus & Folkman, 1984; Lazarus, 1991; Skinner & Brewer, 2002), and these positive emotions are likely associated with the messenger. Consequently, leaders are likely to feel that by sharing bad news, employees have exchanged information that is useful and beneficial. More specifically, sharing bad news is a symbolic gesture in the sense that the value of the bad news extends beyond the message itself (e.g., Foa & Foa, 1974; Cropanzano & Mitchell, 2005). When leaders make a challenge appraisal, they interpret an employee's sharing of bad news messages as a sign of goodwill and helpfulness. Stated more directly in terms of social exchange, when supervisors appraise the sharing of bad news as challenging, their exchange relationship with employees is likely to be enhanced because they believe the transaction (the exchange of bad news

information) is beneficial, and based on norms of reciprocity (Gouldner, 1960), will likely respond to the employee positively. Thus, challenge appraisals will have a positive relationship with LMX.

With regard to hindrance appraisals, leaders are likely to feel thwarted from reaching goals and believe that their personal well-being is in danger because they will have to invest time and effort into resolving issues that will likely not be rewarding (Lazarus & Folkman, 1984; Lazarus, 1991; LePine et al., 2016; Webster et al., 2011). Additionally, hindrance appraisals can arouse leaders' negative emotions, making it likely that they will associate feelings of fear, anxiety, and anger with the messenger (Lazarus & Folkman, 1984; Lazarus, 1991; Skinner & Brewer, 2002). Unlike challenge appraisals of sharing bad news, which reflect an exchange that is useful and well-meaning, hindrance appraisals of sharing bad news suggest that employees are exchanging something harmful that will likely hurt a leader's personal development and achievement. Leaders may feel a sense of loss that is attributed to the employee, weakening their exchange relationship with the employee. That is, hindrance appraisals will relate negatively to LMX.

Hypothesis 6a: Challenge appraisals are positively related to LMX.

Hypothesis 6b: Hindrance appraisals are negatively related to LMX.

Mediation through appraisals

The act of sharing bad news by employees has the potential to influence the exchange relationship between employees and their supervisor. Further, sharing bad news could have either a positive or negative impact on LMX. By integrating the transactional theory of stress, the nature of the relationship between sharing bad news and LMX

becomes clearer. Specifically, leaders appraise the sharing of bad news as either challenging or hindering, and the appraisals leaders make transmit the effects of sharing bad news to LMX. Although prior research has tended to overlook the importance of appraisals, recent work has supported the appraisal process as a critical step in determining how individuals perceive demands in the work environment, and how subsequent actions and behaviors are influenced by these appraisals (LePine et al., 2016; Skinner & Brewer, 2002; Webster et al., 2011). Here, I suggest that the type of appraisal leaders make about sharing bad news messages influences their perception of their relationship with their employee. That is, when leaders appraise the sharing of bad news as challenging, they perceive that their employee has exchanged important and useful information, strengthening LMX. When leaders appraise the sharing of bad news as hindering, they perceive that their employee has exchanged information that is damaging, weakening LMX. In sum, I position challenge and hindrance appraisals as the intervening variables through which the effects of employees' sharing bad news are transferred to LMX, and formally hypothesize:

Hypothesis 7a: Challenge appraisals mediate the relationship between sharing bad news and LMX such that the indirect effect is positive.

Hypothesis 7b: Hindrance appraisals mediate the relationship between sharing bad news and LMX such that the indirect effect is negative.

Moderators of the appraisal process

In order to determine the extent to which a demand is viewed as challenging or hindering, individuals consider a number of different factors, and with regard to sharing bad news, three aspects are particularly salient to leaders. First, leaders consider the

amount of control they have over the situation. Control refers to the degree to which individuals feel that they can influence their environment (Lazarus & Folkman, 1984), and derives from Bandura's (1977) concept of efficacy expectation, which describes an individual's conviction that they possess the skills, knowledge, or resources necessary to execute the behaviors required to produce the desired outcomes. In the context of sharing bad news, control describes whether or not leaders believe they have the capabilities to achieve the desired outcome of resolving the discrepancy identified by the bad news message. Leaders who feel a sense of control are more likely to view the bad news messages as an opportunity, and will invest the time, effort, and attention necessary to resolve the issues raised because they believe that doing so will be rewarding (e.g., Bandura, 1982). Additionally, increased control can also facilitate mastery of one's role as a leader because it enhances the skills and experience necessary for improved performance (e.g., Gist, 1987). Thus, when leaders feel a greater sense of control regarding the bad news, they are likely to appraise the sharing bad news behavior as challenging because the messenger has provided an opportunity for growth or gain. In contrast, leaders who do not believe they have the capabilities or resources necessary to address the bad news are more likely to view messages as a threat. (Bandura, 1977; Lazarus & Folkman, 1984). Stated differently, when leaders feel that they lack sufficient control of the situation described by the bad news message, they are more likely to doubt the extent to which investing their efforts will be rewarded, and instead feel more vulnerable to the potential consequences of the message. As such, supervisors will appraise the sharing of bad news as hindering when they feel little or no control over the bad news because they believe the messenger has threatened their personal growth.

The second factor that influences leaders' appraisals of bad news is the degree to which the message evokes feelings of uncertainty. Uncertainty arises when the event (i.e., bad news) is known, but the degree to which it is harmful is unknown (e.g., Monat, Averill, & Lazarus, 1972), and resolution of the issue is ambiguous (e.g., Greco & Roger, 2001). Thus, leaders are likely to feel uncertain when they are not clear on the full impact or range of consequences implied by the bad news, and are unsure how to resolve the issue. Uncertainty stimulates feelings of anxiety and fear, which are associated with a sense of threat and a focus on the possibility of loss (Argote, Turner, & Fichman, 1989; Carleton, Norton, & Asmundson, 2007; Greco & Roger, 2001, 2003; Lazarus & Folkman, 1984). Consequently, increased uncertainty will likely lead leaders to appraise the sharing of bad news as a hindrance because they believe that the messenger's behavior signals something threatening or undesired. In contrast, when leaders are more certain about bad news, in that they have a greater understanding of the consequences and can readily address the issue, they are more likely to view the sharing of bad news as challenging because the supervisor's investment of effort and resources is more likely to be rewarded.

The third component that features into the appraisal of sharing bad news messages is the imminence of the situation. Imminence describes the amount of time between the occurrence of the bad news event, and the onset of consequences of the event (e.g., Lazarus & Folkman, 1984; McGrath, 1970). That is, the effects of the mistakes or errors that form the content of bad news messages can be immediate or occur in the future, and this difference in proximal or distal impact can influence the extent to which leaders consider messages as challenging or hindering. For instance, when leaders receive bad

news, but the consequences occur in the future, leaders potentially have greater opportunity to evaluate the situation, and consider multiple approaches to overcoming the demand (Lazarus & Folkman, 1984). Additionally, distal consequences of bad news provide leaders increased time to process all relevant information (e.g., De Dreu, 2003), and allow leaders to develop a more comprehensive set of strategies for resolving the issue (e.g., Kerstholt, 1994). This suggests that leaders have greater flexibility to find solutions that are potentially more innovative in nature. Similarly, fully understanding the details of the mistake or error could enhance learning and prevent similar issues in the future. Further, when the situation is not imminent, leaders can maximize potential for effective resolution of the issue by engaging in the right action at the right moment (Lazarus, 1999). The ability to adjust how and when to correct bad news suggests that leaders also have greater potential to adapt to bad news messages when the consequences occur in the future. In contrast, when consequences of bad news are immediate, leaders may not have time to consider multiple options, and feel limited in their ability to find an adequate resolution (e.g., Janis & Mann, 1977; Lazarus & Folkman, 1984) or adapt to the situation. Rather than concentrating on the potential opportunities of bad news messages, leaders may instead focus on the negative consequences (e.g., Baumeister et al., 2001; Edland & Svenson, 1993; Wright, 1974). In short, when consequences are not imminent and leaders have more time to resolve the issues inherent in bad news messages, they are more likely to see potential opportunity and benefit in the messages. Thus, leaders may appraise the sharing of bad news as a challenge. However, when the effects of bad news messages are immediate, leaders' may feel inhibited in their ability to address the situation adequately and instead appraise the sharing of bad news as a hindrance.

As leaders evaluate the sharing of bad news by employees based on these three factors (control, uncertainty, and imminence), their appraisals are likely influenced by aspects of the message delivery (Bies, 2013; Lee, 1993; Legg & Sweeny, 2014; Richter et al., 2016, Sweeny & Sheppard, 2007). In particular, I suggest that the timeliness of message communication and the inclusion of a solution when sharing bad news are particularly relevant in the extent to which sharing bad news is construed as challenging or hindering. Whereas sharing bad news in a timely manner (i.e., closely following the bad news event) can help reduce feelings of imminence, the incorporation of a solution within a bad news message can help reduce a leader's uncertainty and increase their sense of control. I explore each of these aspects of message delivery in more detail below.

Timeliness. The first aspect of message delivery that is relevant to how leaders are likely to appraise a message is the idea of timeliness. Timeliness refers to the interval of time between the bad news event occurring, and the actual sharing of the incident with the leader. Messages that are timely are delivered immediately or shortly following a bad news incident, whereas untimely messages reflect a significant delay between the event occurrence and the delivery of the message. Research on feedback provides some insight as to why timeliness could be influential. In order for feedback to be effective, individuals need to be able to pair their responses to the behavior in question, and when there is a substantial delay between the behavior and delivery of feedback, it can influence the extent to which individuals are able to respond with the appropriate corrective action (Ilgen et al., 1979). In other words, delayed feedback can make it difficult for individuals to recall the behavior that the feedback is meant to address, and subsequently make it less clear how to effectively manage the behavior. A similar logic

can be applied to the sharing of bad news. That is, when employees are timely in sharing bad news messages, leaders, in turn, may more readily recall and understand the incident, making it more likely that they can respond with a course of action that effectively resolves the issue (e.g., Lazarus, 1999). In this regard, timeliness could enhance the extent to which leaders perceive the sharing of bad news as an opportunity and reduce the extent to which sharing bad news is perceived as hindering or threatening.

In addition, recent work related to employee voice suggests a more direct implication of the timing of bad news messages. That is, when messages are timely, it provides more opportunities for leaders to develop and implement potential solutions, as opposed to delayed messages, which may preclude the possibility of finding an adequate solution (e.g., Whiting et al., 2012). When presented with bad news, leaders need a sufficient period of time to gather information and fully explore possible ways of addressing the issue (e.g., Lazarus & Folkman, 1984). The prompt delivery of messages enhances the sense that leaders have adequate time to review their options before the onset of consequences. This suggests that timely reporting of messages can enhance the degree to which sharing bad news is perceived as challenging and reduce the extent to which sharing bad news is perceived as hindering. That is, timely sharing of bad news allows leaders the opportunity to find alternatives that best resolve the issue, increasing the perception that the sharing of bad news has the potential for growth or gain, and reducing the perceived threat or impediment imposed by the sharing of bad news. In sum, timely sharing of bad news suggests to leaders that the consequences of the bad news event are less imminent, and that leaders have ample opportunity to address the issue. As such, timeliness is likely to strengthen the relationship between sharing bad news and

challenge appraisals and weaken the relationship between sharing bad news and hindrance appraisals.

Hypothesis 8a: Timeliness positively moderates the relationship between sharing bad news and challenge appraisals such that the positive relationship becomes stronger when timeliness is high.

Hypothesis 8b: Timeliness negatively moderates the relationship between sharing bad news and hindrance appraisals such that the positive relationship becomes weaker when timeliness is high.

Inclusion of solution. Another characteristic of message delivery that can have a distinct impact on the appraisal of sharing bad news is the extent to which employees include a solution as part of the message. When employees incorporate solutions into the sharing of bad news messages, they offer leaders a constructive path for approaching and resolving the discrepancy identified in the message (Whiting et al., 2012). In this regard, including a solution in the bad news message can enhance a leader's perception of control. That is, sharing a solution alongside the bad news helps leaders to identify the skills and resources that will be necessary to resolve the issue. Leaders are subsequently more likely to feel confident that they can resolve the issue and that investing effort and energy into addressing the issue will be worthwhile (e.g., Bandura, 1982). When leaders believe that they have greater control in the form of a solution, it enhances the extent to which they appraise a messenger's sharing of bad news as challenging and reduces the extent to which a messenger's sharing of bad news is appraised as hindering.

Offering resolution to bad news incidents is also likely to reduce a leader's feelings of uncertainty. When a solution is presented, leaders have a clear idea of how the

issue may be addressed. Further, the inclusion of a solution with the sharing of bad news can also reduce uncertainty by illuminating the degree to which bad news may be useful. For example, the ideas and suggestions offered by employees often point to new and innovative approaches to addressing concerns in the work environment (e.g., Liang et al., 2012; Morrison, 2011, 2014; Van Dyne & LePine, 1998), and it is possible that the potential benefits of bad news messages are more salient when they are accompanied by solutions. That is, leaders may be more likely to perceive the sharing of bad news messages as leading to beneficial outcomes, such as innovation and learning, when they are accompanied by a solution. In other words, offering solutions can enhance a leader's general perception that messengers are offering an opportunity when they share bad news messages, and reduce the perception of sharing bad news as a threat.

Hypothesis 9a: Offering solutions positively moderates the relationship between sharing bad news and challenge appraisals such that the positive relationship becomes stronger when offering solutions is high.

Hypothesis 9b: Offering solutions negatively moderates the relationship between sharing bad news and hindrance appraisals such that the positive relationship becomes weaker when offering solutions is high.

Moderators of the exchange process

In addition to factors that influence how the sharing of bad news is appraised, I also consider factors that influence the exchange relationship between an employee and supervisor once an appraisal has been made. More specifically, I suggest that the degree to which a messenger is personally responsible for the bad news may influence LMX.

Responsibility for the bad news. Responsibility for the bad news refers to the idea that the messenger may be sharing bad news for which s/he is responsible (i.e., “I made this mistake”), partially responsible (i.e., “Our team made this mistake”), or not at all responsible (i.e., “This mistake was caused by external factors”). That is, bad news messengers may be the culprits of the bad news or may, in fact, just be the messenger. The extent to which messengers are responsible for the bad news they are sharing is important with regard to the exchange relationship, as supervisors are likely to respond differently if they believe the messenger is to blame for the bad news event. For example, scholars have shown that when individuals hold another person accountable for a behavior or action they find offensive, they are more likely to retaliate against the offending individual (Aquino et al., 2001; Bradfield & Aquino, 1999). As suggested previously, bad news messages are generally undesirable, and supervisors may find the sharing of bad news to be an unwelcomed behavior. If supervisors also find the messenger responsible for the bad news, the quality of the exchange relationship may be diminished because supervisors believe that the messenger has caused them harm. Specifically, these negative perceptions of the messenger are likely to influence the exchange relationship in that supervisors may be less willing to act cooperatively or fulfill their obligations within the exchange, and may instead respond in a way that is unfavorable to the messenger (e.g., Foa & Foa, 1974). However, the exchange relationship may be preserved if the messenger is not directly responsible for the bad news event. For instance, scholars have shown that when responsibility is distributed among group members, no one person can be at fault (e.g., Mynatt & Sherman, 1975; Wallach, Kogan, & Bem, 1964). If the source of the mistake or error cannot be attributed

directly to the messenger, supervisors are less likely to hold the messenger accountable for the issue, and the quality of the exchange relationship is less likely to be depleted.

Applied more directly to the relationships between each challenge and hindrance appraisals and LMX, being responsible for the bad news being shared is likely to inhibit the positive exchange relationship that forms as a result of a supervisor's challenge appraisal of bad news and enhance the negative exchange relationship that results when supervisors appraise bad news sharing as a hindrance. Stated differently, responsibility for the bad news is likely to suppress the positive relationship between challenge appraisals and LMX, but strengthen the negative relationship between hindrance appraisals and LMX.

Hypothesis 10a: Responsibility for bad news negatively moderates the relationship between challenge appraisals and LMX such that the positive relationship becomes weaker when responsibility is high.

Hypothesis 10b: Responsibility for bad news positively moderates the relationship between hindrance appraisals and LMX such that the negative relationship becomes stronger when responsibility is high.

Sharing bad news: Moderated Mediation

In sum, I suggest that the exchange relationship between an employee and supervisor acts as a mechanism through which an employee's sharing of bad news influences supervisor evaluations of the employee's effectiveness. Further, I suggest that a supervisor's challenge or hindrance appraisal of the sharing of bad news facilitates the exchange relationship between an employee and supervisor. Thus, I suggest two possible mediation pathways between sharing bad news and evaluations of employee

effectiveness: one in which the relationship between sharing bad news and employee effectiveness is mediated by challenge appraisals and LMX, and a second pathway in which the relationship between sharing bad news and employee effectiveness is mediated by hindrance appraisals and LMX. Additionally, I propose that each of these mediation pathways is moderated in the first stage by the timeliness with which bad news is shared, as well as by the extent to which an employee offers solutions to resolve the bad news issue being shared. Finally, I suggest that each of these pathways is moderated in the second stage by the degree to which the bad news messenger is personally responsible for the bad news being shared. These propositions can be summarized in the following hypotheses:

Hypothesis 11a: The indirect effect of sharing bad news on leader evaluations of employee effectiveness through challenge appraisals and LMX is moderated in the first stage by timeliness such that the indirect positive effect is stronger when timeliness is high.

Hypothesis 11b: The indirect effect of sharing bad news on leader evaluations of employee effectiveness through challenge appraisals and LMX is moderated in the first stage by offering solutions such that the indirect positive effect is stronger when offering solutions is high.

Hypothesis 11c: The indirect effect of sharing bad news on leader evaluations of employee effectiveness through hindrance appraisals and LMX is moderated in the first stage by timeliness such that the indirect negative effect is weaker when timeliness is high.

Hypothesis 11d: The indirect effect of sharing bad news on leader evaluations of employee effectiveness through hindrance appraisals and LMX is moderated in the first stage by offering solutions such that the indirect negative effect is weaker when offering solutions is high.

Hypothesis 12a: The indirect effect of sharing bad news on leader evaluations of employee effectiveness through challenge appraisals and LMX is moderated in the second stage by responsibility such that the positive indirect effect is weaker when responsibility is high.

Hypothesis 12b: The indirect effect of sharing bad news on leader evaluations of employee effectiveness through hindrance appraisals and LMX is moderated in the second stage by responsibility for bad news such that the negative indirect effect is stronger when responsibility for bad news is high.

CHAPTER 4

METHOD

In order to evaluate the hypotheses proposed in the previous chapter, I designed three separate studies. In the first study, I develop and validate a scale of sharing bad news. In the second study, I conduct a preliminary test of the conceptual model. In particular, study two is intended to assess the covariance between sharing bad news and supervisor evaluations of employee effectiveness. Finally, study three is designed to extend the findings of study two by helping to establish causality and rule out alternative explanations for the findings. In the following section, I describe the procedures I used to conduct each of these three studies.

Study 1: Sharing Bad News Scale Development

Scholars have developed a number of different measures for assessing different forms of speaking up at work. For instance, scholars have developed measures of voice (Maynes & Podsakoff, 2014; Rusbult, Farrell, Rogers, & Mainous, 1988; Van Dyne & LePine, 1998) and its promotive and prohibitive forms (Liang et al., 2012), information sharing (Durham, 1997); upward communication (Roberts & O'Reilly, 1974a, 1974b), and issue selling (Ashford et al., 1998). Further, scholars have considered the concept of whistle-blowing (Miceli & Near, 1985; 1988; 2002), and scales of speaking up have been inclusive of this concept (Rusbult et al., 1988). Although each of these measures capture important aspects of sharing ideas or information in the work environment, none directly focus on employees' sharing bad news (as defined in this dissertation) with a leader or supervisor. Consequently, the purpose of this first study is to develop and validate a measure of sharing bad news in the workplace.

To develop a scale of sharing bad news, I followed the guidelines offered by Hinkin (1998). The first step in this process is the creation of items. In order to generate items for the sharing bad news construct, I used a deductive approach, which is appropriate as the concept of sharing bad news is theoretically grounded in the extant literature. That is, I created a set of items derived from the definition of sharing bad news. As mentioned in Chapter 2, sharing bad news is described as the communication of closely held information regarding errors, mistakes, deviations, or other negatively valenced events which vary in severity and may require action or remediation on the part of the recipient who is not likely to know about the issue, but who is responsible for the unit of work in which the issue occurs.

In addition to utilizing the definition of sharing bad news, I also considered previously validated measures of speaking up behaviors to determine whether or not existing items could be used to describe sharing bad news. To this end, I first examined the scale of voice offered by Van Dyne & LePine (1998), which has been the most widely used measure of voice by scholars (e.g., Chamberlin et al., 2017). However, most of the items included in this scale refer to proactively speaking up about issues or concerns that generally might have an effect on the work group. For example, “Develops and makes recommendations concerning issues that affect this work group,” “Speaks up and encourages others in this group to get involved in issues that affect the group,” “Gets involved in issues that affect the quality of work life here in this group,” each refer to unspecified issues that may have an impact on the work unit at a future point in time. In contrast, sharing bad news reflects an immediate concern about a specific incident or event that has occurred. Additionally, items such as “Communicates his/her opinions

about work issues to others in this group even if his/her opinion is different and others in the group disagree with him/her,” “Keeps well informed about issues where his/her opinion might be useful to this work group,” and “Speaks up in this group with ideas for new projects or changes in procedures,” suggest that voice is inclusive of ideas and opinions shared with the intent of improving the work environment generally. Sharing bad news does not reflect ideas or opinions, nor is it an attempt to change the status quo. Instead, sharing bad news conveys critical information directly related to work tasks and processes. Consequently, none of the items offered by Van Dyne & LePine adequately reflected the concept of sharing bad news.

In addition to voice generally, I also considered the more specific measures of promotive and prohibitive voice offered by Liang et al. (2012). The promotive voice measures were similar to the measure of voice offered by Van Dyne & LePine (1998) in that they refer to making suggestions or sharing ideas, the implementation of which will benefit the organization in the future. As such, none of the promotive voice items were appropriate for inclusion in the scale of sharing bad news. In contrast, the prohibitive voice items developed by Liang et al. (2012) were much closer to the idea of sharing bad news than either promotive voice or the general measure of voice because each of the prohibitive voice items highlighted potential problems in the workplace. However, the prohibitive voice items were still ineffective in fully capturing the essence of sharing bad news. For example, one item focused on proactively reporting issues (e.g., “Proactively report coordination problems in the workplace to management”) as opposed to reactively sharing information when a problem occurs. Another item focused on speaking to colleagues about general issues (e.g., “Advise other colleagues against undesirable

behaviors that would hamper job performance”), as opposed to speaking with a supervisor or leader about a specific incident or event. Further, some of the prohibitive voice items confounded the notion of speaking up with how the act (of speaking up) may impact the messengers’ relationship with others in the group. For example, items such as “Speak up honestly with problems that might cause serious loss to the work unit, even when/though dissenting opinions exist,” “Dare to voice out opinions on things that might affect efficiency in the work unit, even if that would embarrass others,” “Dare to point out problems when they appear in the unit, even if that would hamper relationships with other colleagues,” not only emphasize speaking up about problems, but also highlight how speaking up could go against others, embarrass others, or create conflict with others, making it difficult to know which part of the phrase respondents are considering when they assess the item. More generally, the prohibitive voice items reflect problems that may commonly occur in the work unit, are possibly ongoing, or are embedded within the organizational policy, as opposed to sharing bad news, which conveys a single unique instance in which a mistake or error has inhibited goal attainment or task completion.

Although a substantial body of research has explored the concept of whistle-blowing, there is not an explicit measure of this construct. However, scholars have included whistle-blowing items in measures of voice. Specifically, I considered a measure of voice developed by Rusbult, Farrell, Rogers, and Mainous (1988) that referenced whistle-blowing items, including: “When things are seriously wrong and the company won’t act, I am willing to “blow the whistle,” and “I have at least once contacted an outside agency (e.g., union) to get help in changing working conditions here.” Both items imply that the general work environment is problematic, and that

speaking up involves contacting someone external to the organization. In contrast, sharing bad news refers to an explicit issue directly related to the work, not a practice or policy as is the case in whistle-blowing. Further, sharing bad news is reported internally to someone, such as a leader or supervisor, who is likely to have the resources to help resolve the issue. As such, these whistle-blowing items were not included in the scale of sharing bad news being developed here.

Finally, I considered the measure of issue selling created by Ashford, Rothbard, Piderit, and Dutton (1998). These items referred to past success in issue selling (e.g., “I have been successful in the past in selling issues to organizations”), the likelihood of successful issue selling (e.g., “I believe that I could get the critical decision makers in my work organization to buy this issue”) and the willingness to speak up with issues (e.g., “How much effort would you be willing to devote to selling this issue in your organization?”). In general, the issue selling items focus on past success in selling issues, as well as one’s current potential to sell issues, whereas sharing bad news reflects a necessary sharing of critical information. Additionally, with regard to issue selling, the issues that employees bring to the attention of their supervisors reflects personal interest or opinion in the idea being suggested. Sharing bad news is not an expression of opinion, but calling attention to a critical situation that likely needs to be resolved. Perhaps not surprisingly, none of the issue selling items fit the current conceptualization of sharing bad news.

Having determined that none of the existing measures or items adequately represented the concept of sharing bad news, I developed my own unique set of items. I carefully constructed each item to ensure that each statement used simple and direct

language, addressed a single-issue, and were not redundant with other items (Hinkin, 1998). This process resulted in 16 sharing bad news items. Example of these items include: “I advise my supervisor of serious work-related errors that s/he might not know about,” “I have no problem sharing bad news with my supervisor,” “I inform my supervisor about significant work-related mistakes that are not immediately obvious,” “I communicate bad news regarding work tasks or outcomes to the supervisor,” and “I avoid telling my supervisor bad news (R).” A complete list of all 16 items can be found in Appendix D.

After creating the items, I next evaluated the substantive validity of the scale. Substantive validity assesses the extent to which items within a measure reflect a given construct (Anderson & Gerbing, 1991), and differs slightly from content validity in that it is more focused on individual items whereas content validity considers the scale more holistically (Holden & Jackson, 1979). Further, a scale will not have content validity if its items do not have substantive validity. To assess substantive validity, I conducted an item-sort task (Anderson & Gerbing, 1991) using a sample of 156 undergraduate students at a large public university in the southwestern United States. The average age of participants was 21.33 years old ($SD = 2.42$) and the majority (67%) were male. Students received course credit for participating in the study.

As evident in the literature review in chapter two and in the review of voice scales above, scholars have introduced a number of constructs to capture elements of speaking up in the workplace. For the item-sort task, participants were provided the definition for sharing bad news, as well as definitions for promotive voice, prohibitive voice, and whistleblowing. These three constructs were selected as they are most conceptually

similar to the concept of sharing bad news. Participants were then provided a list of 31 items, included in Appendix D, and asked to assign each item to one of the four defined constructs. The items used in this task included the 16 items of sharing bad news, 5 items reflecting promotive voice, 5 items reflecting prohibitive voice (Liang et al., 2012), and 5 items from Rusbult, Farrell, Rogers, and Mainous (1988) that have been associated with whistle-blowing. Although some scholars have suggested that participants should be allowed to specify if an item does not relate to any of the constructs provided, Anderson and Gerbing (1991) suggest that this is not necessary for non-expert samples, as is the case here.

I examined the results of this item-sort task using two indices of substantive validity (Anderson & Gerbing, 1991). First, I considered the proportion of substantive agreement, which reflects the number of respondents (out of the total number of respondents) who assign an item to its intended construct. Each of the 16 of the sharing bad news items was assigned to the sharing bad news definition by a majority of the participants. Agreement ranged from 50% to 80% across the 16 items. Second, I examined the coefficient of substantive validity, or the extent to which each item was assigned to its intended construct more than any other construct. The substantive validity coefficient ranged from .03 to .72 across the 16 sharing bad news items. Although a higher coefficient of substantive validity generally suggests greater substantive validity, this coefficient can also be evaluated for statistical significance to determine whether or not items have been assigned to the intended construct more than accounted for by random chance (Ferris, Brown, Berry, & Lian, 2008). Using a binomial test (Anderson & Gerbing, 1991), the coefficient of substantive validity was determined to be significant

for 15 of the 16 sharing bad news items. That is, 15 of the items were assigned to the sharing bad news definition more frequently than would be expected by random chance. The item that did not have a significant coefficient of substantive validity, “If an important mistake is made at work, I let someone else tell the supervisor (R)” was removed from the scale. The 15 items retained in the sharing bad news scale are reported in Appendix E.

In addition to evaluating substantive validity, I also examined the discriminant validity of the sharing bad news scale. Discriminant validity indicates whether a measure is unique or overlaps with other constructs and is particularly important for ensuring that a new construct is not redundant with existing established constructs (Schwab, 2005). To conduct an evaluation of discriminant validity, I utilized a sample of 221 individuals recruited from Amazon Mechanical Turk (MTurk). The majority of participants were male (69.63%) and were 33.77 years old ($SD = 9.96$) on average. Individuals largely identified as ethnically Caucasian/white (66.82%) and most had some college or held a bachelor’s degree (67.29%). Individuals were recruited from a range of industries and the majority of participants (74.19%) had between 1 and 6 years of work experience.

Procedure and measures. Participants were provided with the items from the sharing bad news scale, as well as the items from the scales for promotive and prohibitive voice, whistle-blowing, and issue-selling. A full list of each of these measures is included in Appendix E. Participants were then asked to evaluate the extent to which they engaged in each of these items within the workplace. Participants rated each item using a five-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree).

Sharing bad news. Sharing bad news was measured using the 15-item scale that resulted following the check of substantive validity. The reliability of this scale was .94.

Promotive voice and prohibitive voice. Promotive and prohibitive voice were evaluated using the scales developed by Liang et al. (2012). The promotive voice scale included five items, such as “Proactively suggest new projects which are beneficial to the work unit.” The reliability of the promotive voice scale was .93. The prohibitive voice scale also included five items, a sample of which is “Advice other colleagues against undesirable behaviors that would hamper job performance.” The reliability of the prohibitive voice scale was .86.

Whistle-blowing. In order to assess whistle-blowing, I used a scale developed by Rusbult, Farrell, Rogers, and Mainous (1988) that was intended to measure speaking up, but includes whistle-blowing items. A sample item of this scale is “When things are seriously wrong and the company won’t act, I am willing to ‘blow the whistle.’” The reliability of this scale was .67.

Issue selling. I included a measure of issue selling developed by Ashford, et al. (1998). This scale includes items such as “I am known as a successful issue seller,” and the reliability of this scale was .96.

To assess the discriminant validity of the sharing bad news measure, I utilized a confirmatory factor analysis (CFA) approach (Anderson & Gerbing, 1988). Using this approach, a baseline model is established in which each construct is represented as its own unique factor. For this study, the baseline model is a five-factor model in which sharing bad news, promotive voice, prohibitive voice, whistle-blowing, and issue selling are each designated as a unique factor. This baseline model is then compared to a series

of models in which the focal construct is combined with one of the established constructs. For this analysis, I compared the five-factor baseline model to a series of four-factor models in which the items for sharing bad news were loaded onto the same factor as the items for promotive voice, prohibitive voice, whistle-blowing, and issue selling, respectively. The model fit of the five-factor model was then compared to model fit of each of the subsequent four-factor models. Results of this analysis are reported in the chapter that follows.

Study 2: Field Study of Sharing Bad News

The primary purpose of this study is to explore the substantive relationships described in the hypotheses within a field setting. In particular, this study is intended to explore the relationship between sharing bad news and supervisor evaluations of employee effectiveness.

Sample. The participants in this study were employees and their supervisors at the Southwest regional location of a large multinational beverage distributor based in the United States. Surveys were distributed to 246 employees and 240 surveys were returned for a response rate of 97.56%. Even though 240 employees responded to the survey, I was unable to obtain supervisor rating for several of these individuals. Only individuals who could be matched with supervisor ratings were retained in the data set. Further, a number of participants were removed from the data set because they exhibited careless responses, which have the potential to influence study results in ways that are not entirely predictable (e.g., Meade & Craig, 2012). The final data set included 202 participants, a strong majority of whom (90.05%) were male. On average, participants were 36.37 years of age ($SD = 10.39$) and had worked at the organization for 8.23 years ($SD = 8.28$).

Additionally, participants had worked within their current job for an average of 5.10 years ($SD = 6.16$) and had worked with their current supervisor for an average of 1.62 years ($SD = 2.32$).

Procedure. This study was completed in two phases. In the first phase, employees received a survey regarding the extent to which they share bad news within the workplace. This survey was administered to participants using a pencil and paper approach, and results were later recorded electronically. Approximately one month following the completion of the employee surveys, supervisors received an electronic survey in which they rated each of their employees on the remaining focal variables within the model. Specifically, supervisors rated the degree to which employees' sharing of bad news was appraised as challenging or hindering, as well as their employees' timeliness, offering solutions, and taking responsibility when sharing bad news. Additionally, supervisors rated the overall performance of each employee. On average, the span of control for supervisors at this organization was 17 employees, with a range of 7 to 31 employees per supervisor. Following completion of the supervisor survey, supervisor responses were matched to employee surveys.

Employee measures. All measures were evaluated on a five-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree). A full list of the items used in each measure can be found in Appendix F.

Sharing bad news. Sharing bad news was measured using the 15-item measure developed in study 1. The reliability for this scale was initially much lower than reliability reported for this scale in the first study (.94). However, the item-total statistics reported in SPSS suggested that removal of the single reverse coded item in the scale

would substantially improve reliability (e.g., Schmitt & Stults, 1985). In looking at the factor loadings for each of the items, the reverse coded item also had a particularly low factor loading (.56) relative to the other items in the scale (all .90 or higher). This item, “I avoid telling my supervisor bad news,” was removed from the measure. Thus, the final measure used in this study included the 14 positively phrased sharing bad news items. Sample items from this measure include “I have no problem sharing bad news with my supervisor” and “I inform my supervisor about significant work-related mistakes that are not immediately obvious.” The reliability of this 14-item sharing bad news scale was .93.

Supervisor measures. As with the employee measures, all measures used in the supervisor survey were evaluated on a five-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree). A full list of the items used in each measure can be found in Appendix F. It should be noted that many of the measures used in the supervisor survey have been abbreviated from their full length. This was due to restrictions imposed by the organization that the survey be kept as short as possible. As mentioned above, supervisors in this organization are responsible for managing a large number of employees (17 on average). In order to capture supervisor ratings for each of the focal variables and still maintain brevity in the survey, the number of items in each measure was reduced to ensure that supervisors would be able to maintain the focus and attention required to adequately rate each of their employees for each of the study variables.

Challenge and hindrance appraisals. The degree to which bad news was appraised as challenging and hindering was evaluated using an adapted version of the scale offered by LePine, Zhang, Crawford, and Rich (2016). Two items were used to

assess challenge appraisal, a sample of which includes “This employee shares information that helps me achieve the goals of our work group.” The coefficient alpha of the challenge appraisal scale was .86. Two items were also used to assess hindrance appraisal, a sample of which is “This employee speaks to me about issues that hinder me in improving the growth and well-being of our work group.” The coefficient alpha of the hindrance appraisal scale was .66.

Leader-member exchange. I evaluated LMX using a two-item measure adapted from Graen and Uhl-Bein (1995). A sample item from this measure is “I would use my power to help this individual solve problems in his/her work.” The coefficient alpha for this measure was .83.

Evaluations of employee effectiveness. In order to assess each employee’s overall effectiveness in the organization, supervisors responded to a 1-item measure adapted from the measure of employee performance created by Motowidlo and Van Scotter (1994). This item was: “This employee exceeds standards for overall job performance.”

Timeliness. Timeliness refers to the length of time between the occurrence of a bad news event, and the actual sharing of bad news. A one-item measure was created to capture timeliness, and this item was: “This employee waits too long to share information about slip-ups that occur on the job.”

Offering solutions. A single item was used to evaluate the extent to which employees provide solutions when sharing bad news. This item was: “This employee includes a solution when s/he shares a work-related problem with me.”

Responsibility for the bad news. Responsibility for the bad news captures the idea that the employee is personally to blame for the bad news incident. However, as this

study was not evaluating a specific event, this concept was assessed by considering the extent to which an employee tends to take responsibility for work-related situations or events. Thus, responsibility was evaluated using a single item measure adapted from the measure of felt responsibility offered by Morrison and Phelps (1999). This item was: “This employee takes responsibility for correcting problems.”

Control variables. In this study, I controlled for several factors. First, I controlled for employees’ previous performance. Prior performance could influence the sharing of bad news in that individuals who have received higher evaluations of performance in the past may be more likely to share bad news, whereas those who have received lower evaluations of performance may be less likely to share bad news. Thus, supervisors may be more likely to rate certain employees’ sharing of bad news simply because they are more likely to engage in the behavior. Further, supervisors may perceive that individuals who have performed highly in the past may be more likely to share bad news in ways which are viewed as beneficial, whereas the sharing of bad news by previously low performers may be viewed as more threatening. Prior performance was rated by supervisors using a one-item measure, “During the prior performance period, this employee exceeded standards for overall job performance.”

Additionally, a supervisor’s evaluation of sharing bad news could be influenced by the supervisor’s personality traits, specifically neuroticism and trust propensity. Neuroticism describes the extent to which an individual is prone to experience psychological distress (Costa & McCrae, 1992), and may be heightened when negative events occur, such as when bad news messages are shared (Judge, Higgins, Toresen, & Barrick, 1999). Consequently, highly neurotic leaders may be more likely to evaluate the

sharing of bad news as threatening and subsequently provide lower ratings of employee effectiveness. Neuroticism was measured using four-items from the neuroticism dimension of the Mini-IPIP (Donnellan, Oswald, Baird, & Lucas, 2006). Sample items include “I get stressed out easily” and “I worry about things.” The coefficient alpha of this measure was .92. Trust propensity describes a general willingness to trust others (Mayer et al., 1995), and supervisors who are highly trusting may be more likely to view the actions and behaviors of subordinates as helpful or beneficial. Thus, supervisors may be more likely to perceive sharing bad news as challenging, or they may not interpret the sharing of bad news as a demand. Trust propensity was measured using the five-item measure adapted from MacDonald, Kessel, and Fuller (1972). Sample items include “I expect other people to be honest and open” and “I feel that other people can be relied upon to do what they say they will do.” The coefficient alpha of trust propensity was .84.

Analysis. To analyze the proposed hypotheses, I used two different approaches. First, several of the hypotheses evaluated the relationships between the focal variables in the study (Hypotheses 1a, 1b, 2a, 2b, 3, 5a, 5b, 6a, and 6b). For these hypotheses, I used path analysis to assess whether or not the predicted nature of the specified relationship was supported. For each of these hypotheses, I specified a simple path model in MPlus 7.3 (Muthén & Muthén, 2012). In the case of competing hypotheses, I considered the direction of the unstandardized regression weight between the focal independent and dependent variable to determine which of the two predictions would be supported, if either. Using path analysis allowed me to examine the predicted relationship for each hypothesis while also controlling for other factors (e.g., prior performance) that could potentially influence the focal relationship.

The remaining hypotheses in the study included mediation (Hypotheses 4a, 4b, 7a, and 7b) moderation (Hypotheses 8a – 10b), and moderated mediation (Hypotheses 11a – 12b). For these hypotheses, I utilized structural equation modeling (SEM) with maximum likelihood estimation. Using MPlus 7.3 (Muthén & Muthén, 2012), I specified the model that corresponded with each separate hypothesis and evaluated the resulting effects. These analyses and results are discussed in greater detail in the following chapter.

Study 3: Lab Study of Sharing Bad News

One of the key purposes of study two is to demonstrate covariance between sharing bad news and evaluations of employee effectiveness by supervisors, suggesting that the theory I have proposed could potentially explain this relationship. The purpose of study 3 is to extend the findings of the second study by helping to establish causality and rule out alternative explanations for the findings, such as the notion that evaluations of performance could drive employees' sharing of bad news.

Sample. Participants in this study were undergraduate students recruited from a large public university in the Southwest United States. Students received course credit for their participation in the study, and were also entered into a drawing for a gift card at the end of each semester the study was conducted. The initial number of participants included in this study was 120. However, five participants were removed from the data set because they accurately assessed the intent of the study when asked to describe the purpose of the experiment during the debriefing period at the conclusion of the lab. Further, and as is described in more detail below, this study involves four distinct manipulations executed by a confederate. An additional three participants were removed because they responded exactly the opposite of what would be expected for at least three

of the four conditions being manipulated within the study. Stated more simply, these individuals did not pass the manipulation check for at least three of the four study manipulations. Finally, one participant was removed from the study because the confederate did not correctly execute the predetermined script for the lab session. The resulting sample consisted of 111 individuals. The average age of participants was 21.81 (SD = 1.74) years old and a slight majority were male (56.25%).

Procedure. This study took place in a laboratory using a one-hour firefighting simulation. Prior to beginning the experiment, participants responded to a short survey assessing personal characteristics. Following completion of the survey, participants received a brief tutorial from the experimenter explaining how the simulation is played. In this simulation, groups of participants sit at networked computers that show a grid labeled horizontally from A-Z and vertically from 1-30. The grid is depicted as a map containing houses, schools, hospitals, forested areas, and grass. Each participant in the group is assigned a unique firefighting role, and group members work together to extinguish the multiple fires that arise on the grid during the simulation. Groups receive points when landmarks (i.e., houses, schools, and hospitals) and geographic features (forested areas and grass) are destroyed. In this study, groups receive .25 points for each grid square of grass burned, 1 point for each grid square of forested area burned, 25 points for every house burned, and 50 points for every school or hospital burned. The goal of each team is to maintain the lowest score possible by extinguishing fires. Within this study, I utilized teams of three individuals, two of whom were unaware of the purpose of the study, and a third individual who was a trained confederate.

The two non-confederate participants were randomly assigned the roles of Fire Chief and Firefighter. The non-confederate participants received a hard copy of the instructions for the simulation, as well as a description of their roles. An example of these instructions for both the Fire Chief and the Firefighter are provided in Appendix G. The Fire Chief is the group leader and is responsible for coordinating the actions of the group in order to fight the fire. The Fire Chief has moderate skills for putting out fires, but is the only participant in the simulation who can see fires across the entire screen. In contrast, the Firefighter is highly capable of extinguishing fires, but can only see fires when they are within one of the grid squares surrounding the Firefighter's position. Thus, the Firefighter is dependent on the Fire Chief for direction to existing fires. It should be noted that because the intent of the study is to understand supervisor responses to the sharing of bad news by subordinates, the Fire Chief is the respondent of interest. To be clear, the sample of 111 participants consists entirely of individuals who played the role of Fire Chief during the simulation; responses of individuals who played the Firefighter role were not examined in this dissertation.

In this study, the confederate was assigned the role of the Water Carrier. Within the simulation, the Water Carrier has limited ability to fight fires, but has a larger water supply than either the Fire Chief or the Firefighter. More specifically, the water carrier is responsible for keeping the team supplied with water, including refilling other players as their water supplies are depleted. Like the Firefighter, the Water Carrier can only view fires if they are within the grid squares surrounding her/his position and is dependent on the Fire Chief for direction.

Following the tutorial, participants played a practice round of the simulation. The practice round lasted 5 minutes, and provided participants with the opportunity to learn how to move their player on the map, put out fires, and refill their water. Additionally, participants were told that they would not be allowed to talk out loud during the simulation, and the practice round allowed participants to become familiar with using the online chat tool for communicating with one another. At the end of the practice round, participants were offered the opportunity to ask questions regarding the simulation before beginning the scored round.

The scored round was 12 minutes in length. The scored round consisted of multiple fires of varied severity that begin every 2-3 minutes. Just before the halfway point of the simulation (during minute 5 of the simulation), the confederate, in his role as the Water Carrier, initiates the set of manipulations for the study. During this study, four conditions were manipulated: the severity of bad news shared, timeliness of message sharing, offering a solution (or not) once the bad news had been shared, and taking responsibility (or not) for the bad news event. The confederate followed a specific script for each of these manipulations, and an example of this script is included in Appendix H.

The first condition that I manipulated in this study was the *severity of the bad news*. As the goal of the simulation is to maintain a low point total by extinguishing fires before they burn key landmarks or geographic features, a critical aspect of the game is the amount of water available to put out fires. As such, the bad news event focused on the possibility of running out of water before the end of the simulation. Running out of water would inhibit the team's ability to fight fires, and likely result in an accumulation of points, as the team would not be able to prevent landmarks or geographic features from

burning. Further, the simulation was set up such that the confederate, in the role of the Water Carrier, had exclusive responsibility for the team's water supply. The other players were limited in their ability to obtain water in order to ensure that sharing bad news regarding a depletion in the water supply could not be ignored or remedied by either the Fire Chief or the Firefighter. In the "severe bad news" condition, the confederate stated the following: "I have really bad news. We won't have enough water to put out the fires." In the "mild bad news" condition, the confederate stated: "Hey. We might have an issue with our water supply." In both instances, the confederate stated these phrases out loud. Each of these phrases were then typed into the online chat tool following a scripted reminder from the experimenter that talking was not allowed during the simulation.

The other three manipulations in the study focused on the hypothesized aspects of how news was shared, such as the timeliness in sharing the news, and factors related to the sharing of the bad news, such as whether or not a solution for the issue was offered, or whether or not the messenger was responsible for the bad news event. Although the confederate shared bad news at exactly the same point in time during each simulation, I manipulated *timeliness* by creating a sense of how long the confederate had known about the situation prior to sharing the bad news. In the "timely" condition, the confederate began the sharing of the bad news with the statement "I just realized. . ." In the "untimely" condition, the confederate began sharing the bad news with the statement "I should have said something earlier, but I noticed when we started. . ." These statements conveyed that the confederate shared the bad news as soon as the situation was apparent, or had known about the problem for some time before sharing the information. Additionally, I manipulated whether or not the confederate *offered a solution* to the

bad news event. In this study, the bad news event was a problem with the water supply, monitored by the Water Carrier, which made it questionable whether or not there would be enough water to finish the simulation. In the “solution” condition, the confederate explicitly stated “I have a solution. . .” shortly following the sharing of bad news and then described an idea for refilling his water. In the “no solution” condition the confederate made no statement, and did not offer any ideas for refilling the water supply. The final condition that was manipulated during this study was whether or not the confederate *took responsibility* for the bad news. In the “responsible” condition, the confederate followed the sharing of bad news with the statement: “This is completely my fault. I should have read my instructions.” In the “not responsible” condition, the confederate stated “This is not my fault. It wasn’t in my instructions.”

The manipulation of these four factors resulted in a 2 (highly severe/mildly severe bad news) X 2 (timely/untimely sharing of bad news) X 2 (solution/no solution) X 2 (responsible/not responsible) study design. The average sample size for each of these conditions was 7 individuals, with a range of 5 to 9 individuals in each condition. Again, the sample sizes reported here reflect the number of individuals playing the role of Fire Chief for each of the 16 conditions. Participants were randomly assigned to one of these 16 resulting conditions, which are summarized in Table 11.

After the confederate instigated the manipulation, the team used the remaining time to finish playing the simulation. When the simulation ended, participants completed a second survey with questions regarding their commitment to the team’s goals and their sense of psychological safety on the team. In addition, participants assigned the role of Fire Chief were asked a series of questions to ensure the manipulations were effective, as

well as questions regarding their experiences with the Water Carrier during the simulation.

Measures. A full list of the items used in each measure can be found in Appendix I. As in study 2, I evaluated each of these measures on a five-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree).

Challenge and hindrance appraisals. I evaluated the degree to which bad news was appraised as challenging and hindering using an adapted version of the scale offered by LePine, Zhang, Crawford, and Rich (2016). Each challenge and hindrance appraisals were assessed using three items. A sample challenge appraisal item is “The water carrier shared information that helped me achieve the goals of our team.” The coefficient alpha of the challenge appraisal scale was .86. A sample hindrance appraisal item is “The water carrier spoke to me about issues that hindered me in improving the growth and well-being of our team.” The coefficient alpha of the hindrance appraisal scale was .83.

Leader-member exchange. LMX was evaluated using a seven item measure adapted from Graen & Uhl-Bein (1995). Items in this measure include “I defend and justify this individual’s [the water carrier’s] decisions” and “I have an effective working relationship with this individual [the water carrier].” The coefficient alpha for this measure was .87.

Evaluations of effectiveness. The Fire Chief’s evaluations of Water Carrier (confederate) effectiveness was assessed using a four-item measure adapted from the measure of performance offered by Motowidlo and Van Scotter (1994). Sample items include “The water carrier exceeded standards for overall job performance” and “I would

work with this individual in future simulations.” The coefficient alpha for this scale was .73.

Control variables. In addition to the focal variables in the study, I also evaluated several control variables. As in Study 2, neuroticism was captured with the scale offered by Donnellan, Oswald, Baird, and Lucas (2006), and the coefficient alpha of this scale was .87. I also assessed trust propensity using the measure offered by MacDonald, Kessel, and Fuller (1972). The measure of trust propensity had a coefficient alpha of .80. As discussed in study 2, conceptually, these variables are likely to influence the relationships in the proposed model. For instance, individuals who score highly on neuroticism are more prone to stress and are more likely to experience negative moods (Judge et al., 1999), increasing the likelihood of evaluating the sharing of bad news negatively. Additionally, the degree to which individuals are prone to be trusting could influence the extent to which they believe the actions and behaviors of other are intended to be beneficial. In this study, trust propensity could specifically influence the extent to which sharing bad news is perceived as a challenge or hindrance.

In addition to trust propensity and neuroticism, I also measured psychological safety and goal commitment. Psychological safety captures the extent to which individuals believe it is safe to share information on their team (Edmondson, 1999), and could influence how participants in the role of the Fire Chief perceive the sharing of bad news messages by the Water Carrier. That is, the Fire Chief may be more accepting of bad news messages if they believe that their group offers a safe space for this kind of information to be shared. Psychological safety was evaluated using a seven-item measure (Edmondson, 1999), sample items of which include “If you make a mistake on this team,

it is held against you,” and “It is safe to take risks on this team.” The coefficient alpha of this scale was .63. Goal commitment refers to a continued effort or determination to achieve a goal (Locke et al., 1981). Goal commitment is likely to relate to sharing bad news because individuals who are highly committed to the goals of their work unit or team will likely want to find resolution for mistakes or deviations that would impede goal achievement. Individuals who are more committed to the goals of the team may be more driven to enhance team performance (Hollenbeck, Klein, O’Leary, & Wright, 1989), and may view potential setbacks to goal achievement, such as bad news, more detrimental than individuals who are less committed to goals. Goal commitment was measured using a five-item scale adapted from Hollenbeck, Klein, O’Leary, and Wright (1989) and Hollenbeck, Williams, and Klein (1989). Sample items include “I am strongly committed to pursuing our team’s goals” and “I think our team goals are good goals to shoot for.” The coefficient alpha of the goal commitment scale was .89.

Finally, I controlled for the effect of the confederate. Three separate individuals played the role of the Water Carrier during the course of the study, and although each of these confederates received the exact same training, and were required to execute the same script, it is possible that participants in the study responded to each of these confederates differently. I controlled for the confederate by including two dummy variables (leaving third confederate as the baseline) to account for any differences that may be attributed to the confederate.

Analysis. I analyzed my initial set of hypotheses (1a, 1b, 2a, 2b, 5a, 5b, 6a, and 6b) using analysis of covariance (ANCOVA). This approach is appropriate given the dichotomous nature of the sharing bad news variable in this study. Further, it allows for

examination of the focal relationships with the inclusion of control variable in the analysis. I evaluated Hypotheses 3, 6a, and 6b by specifying a simple path model in MPlus 7.3 (Muthén & Muthén, 2012). To evaluate the mediation (hypotheses 4a, 4b, 7a, and 7b) moderation (hypotheses 8a – 10b), and moderated mediation (hypotheses 11a – 12b) relationships proposed in the model, I utilized the same approach outlined in Study 2. Specifically, I examined these hypotheses using SEM with maximum likelihood estimation. For each hypothesis, I specified the proposed set of relationships in MPlus 7.3 (Muthén & Muthén, 2012). I discuss the results of these analyses in the next chapter.

CHAPTER 5

RESULTS

The results of each of the three studies are reported in the following section. I first describe the results of study 1 in which I evaluated the discriminant validity of the sharing bad news scale. Next, I report the results of study 2, a field study which was designed to evaluate the hypotheses proposed in this study. Finally, I report the results of study 3, a lab study that manipulated the sharing of bad news, as well as the hypothesized moderating conditions, for a more complete evaluation of the proposed hypotheses.

Results of Study 1 (Evaluation of Discriminant Validity)

To determine whether sharing bad news was distinct from other constructs, I evaluated the discriminant validity of the scale by comparing it to similar constructs that have been previously established within the literature, including promotive and prohibitive voice, whistle-blowing, and issue selling. The descriptive statistics and correlations for each of these variables are reported in Table 1. In examining the correlations, sharing bad news is strongly correlated with both promotive voice ($r = .52, p < .05$) and prohibitive voice ($r = .42, p < .05$). The relatively high correlations between sharing bad news and each promotive and prohibitive voice is not unexpected, as the constructs similarly reflect speaking up in the workplace regarding issues related to the task or work environment. In addition, sharing bad news is moderately correlated with issue selling ($r = .25, p < .05$). Sharing bad news was not significantly correlated with the measure of whistle-blowing. Although the lack of a significant correlation with whistle-blowing is somewhat surprising from a conceptual perspective, the low reliability of the whistle-blowing measure may indicate that the measure is not fully capturing the whistle-

blowing concept. The lack of adequacy in the whistle-blowing measure may account for a non-significant correlation with sharing bad news.

As described in the methods section, I utilized a CFA approach for evaluating the discriminant validity of the sharing bad news construct. The results of this analysis are reported in Table 2. Using MPlus 7.3 (Muthén & Muthén, 2012), I specified a model in which sharing bad news, promotive voice, prohibitive voice, whistle-blowing, and issue selling were each designated as distinct factors. Based on the guidelines offered by Hu and Bentler (1999), this model had good fit: $\chi^2(682) = 1312.37, p < .01$; RMSEA = .07; CFI = .91; TFI = .90; SRMR = .07. Using this five-factor model as a baseline, I then compared these fit statistics to a series of four-factor models in which the sharing bad news items were combined with the items of one of the established constructs. For example, I first specified a model in which the sharing bad news items and the promotive voice items were designated on a single factor, and each prohibitive voice, whistle-blowing, and issue selling were designated as unique factors. This four-factor model had worse fit ($\chi^2(686) = 2064.47, p < .01$; RMSEA = .10; CFI = .79; TFI = .78; SRMR = .14) and also had a significant chi-squared difference test ($\Delta\chi^2(4) = 752.09, p < .01$), indicating that the five-factor model fit significantly better than this four-factor model. I repeated this process, next combining the items of sharing bad news and prohibitive voice on a single factor. Again, the fit statistics for this model were not as strong as for the five-factor model ($\chi^2(686) = 1629.85, p < .01$; RMSEA = .08; CFI = .86; TFI = .85; SRMR = .12), and the chi-squared difference test was significant ($\Delta\chi^2(4) = 317.47, p < .01$). I found similar results when I combined sharing bad news and whistle-blowing items onto a single factor ($\chi^2(686) = 1530.49, p < .01$; RMSEA = .08; CFI = .87; TFI = .86; SRMR =

.12), and again obtained a significant chi-squared difference test ($\Delta\chi^2(4) = 218.11, p < .01$). The fit of the four-factor model in which I combined sharing bad news and issue selling items was also worse than the five-factor model ($\chi^2(686) = 2368.59, p < .01$; RMSEA = .11; CFI = .75; TFI = .73; SRMR = .19). Additionally, the chi-squared difference test for this model was significant ($\Delta\chi^2(4) = 1056.22, p < .01$). Finally, I ran a model in which all of the items of each of the constructs were loaded onto a single factor. This model had significantly worse fit ($\chi^2(692) = 3172.17, p < .01$; RMSEA = .13; CFI = .63; TFI = .60; SRMR = .16), and also had a significant chi-squared difference test ($\Delta\chi^2(10) = 1858.80, p < .01$). Based on these results, I determined that the five-factor model in which sharing bad news was designated as its own unique factor alongside factors of promotive voice, prohibitive voice, whistle-blowing, and issue selling, was the best fitting model. Thus, these results support the discriminant validity of the sharing bad news scale.

As a supplemental analysis to these findings, I also examined the sharing bad news scale using the approach offered by Fornell and Larcker (1981). First, I considered the composite reliability of the scale, which is calculated using the formula:

$$\frac{(\sum\lambda_i)^2}{(\sum\lambda_i)^2 + \sum var(\varepsilon_i)}$$

where lambda is the standardized factor loading for item “i” and “var(ε_i)” is the error variance for each item. The error variance is calculated by subtracting the squared standardized factor loading of an item from 1. The composite reliability for the sharing bad news scale was .94, which indicates strong construct validity.

Second, I considered convergent validity of the sharing bad news scale, or amount of variance captured by the scale relative to the amount of variance accounted for by measurement error (Fornell & Larcker, 1981). Convergent validity can be assessed by examining the average variance extracted (AVE), or the average of the squared standardized factor loadings of the items in the scale. Measures with an AVE greater than .50 are considered to have acceptable convergent validity. For the sharing bad news scale, all of the standardized factor loadings were significant, and the AVE of the scale was .53. Consequently, the sharing bad news scale also has adequate convergent validity.

Finally, I further examined discriminant validity by comparing the AVE of the sharing bad news scale with the variance shared with each of the other constructs (promotive and prohibitive voice, whistle-blowing, and issue selling). A scale has good discriminant validity if the AVE of the focal variable (sharing bad news) is higher than the shared variance between the focal variable and a related construct (each promotive and prohibitive voice, whistle-blowing, and issue selling). The shared variance of two variables can be calculated by squaring the correlation between the variables. As shown in Table 3, the AVE of sharing bad news (.53) is higher than the shared variance between sharing bad news and each promotive voice ($r^2 = .31$), prohibitive voice ($r^2 = .23$), whistle-blowing ($r^2 = .12$), and issue selling ($r^2 = .07$). These results reinforce the findings of the CFA approach reported above, and suggest that the sharing bad news scale also has discriminant validity.

Results of Study 2: Field Study of Sharing Bad News

Evaluation of hypotheses. The sample used in study 2 consisted of employees nested within work groups led by a single supervisor. As such, I first evaluated the data to

determine whether or not there was significant between-group variance. Following the guidelines offered by Raudenbush and Bryk (2002), I tested the null models for each of the endogenous variables in my path model (i.e., challenge and hindrance appraisals, LMX, and evaluations of effectiveness). Each of the variables were found to have significant between-group variance: challenge appraisal ($\tau^2 = .13, p < .05, ICC(1) = .21$), hindrance appraisal ($\tau^2 = .58, p < .05, ICC(1) = .71$), LMX ($\tau^2 = .28, p < .05, ICC(1) = .73$), and evaluations of effectiveness ($\tau^2 = .17, p < .05, ICC(1) = .20$). Given that all of the endogenous variables utilized in the focal analysis had significant between-group variance, I conducted my analyses for this study using a multilevel approach. Using a multilevel approach allowed me to control for the between-group variance of the variables in my model, even though all of the relationships within the proposed model are hypothesized at a single level of analysis.

In addition to evaluating the between-level variance of the endogenous variables, I also use a CFA to assess the fit of the hypothesized model prior to examining the individual hypotheses. The results of the CFA analysis are reported in Table 4. I first assessed the fit of my conceptual model. For this analysis, I included sharing bad news, challenge and hindrance appraisals, and LMX (4-factors). The moderating variables, as well as evaluations of effectiveness were not included in this initial CFA because each of these variables was only a single item. My proposed model had a moderate fit: $\chi^2(189) = 556.17, p < .01$; RMSEA = .10; CFI = .87; TFI = .85; SRMR = .07. I next compared my conceptual model to a series of alternative models that each had a reduced number of factors. First, I compared my proposed model in which sharing bad news and LMX were individual factors and the items from the challenge and hindrance appraisal scales were

combined onto a single factor. Next, I examined an alternative model in which sharing bad news was a single factor, challenge and hindrance appraisal items were combined onto a single factor, and the LMX items were combined with the one employee effectiveness item to comprise the third factor. Finally, I considered a 1-factor model. The difference in the chi-squared was significant for each of these alternative models, suggesting that my proposed model was the best fit for the data.

The means, standard deviations, and correlations of the study variables are reported in Table 5. The first four hypotheses examined the exchange relationships proposed in my model. First, I considered whether sharing bad news would be positively (Hypothesis 1a) or negatively (Hypothesis 1b) related to evaluations of employee effectiveness. As shown in Table 5, the correlation between sharing bad news and evaluations of employee effectiveness is positive and significant ($r = .15, p < .05$), providing some initial support for the idea that leaders reward employees who share bad news with higher evaluations of effectiveness. However, using path analysis to control for prior performance, I find that there is no significant relationship between sharing bad news and supervisor evaluations of employee effectiveness ($B = .04, p > .05$). Consequently, neither Hypothesis 1a nor Hypothesis 1b are supported. Hypotheses 2a and 2b similarly consider whether the relationship between sharing bad news and LMX is positive (2a) or negative (2b). Neither of these hypotheses is supported, as the correlation between sharing bad news and LMX is not significant ($r = .10, p > .10$), nor is there a significant effect when examining this relationship using path analysis ($B = -.00, p > .05$). My third hypothesis predicted that LMX would relate positively to evaluations of employee effectiveness. The correlation between LMX and evaluations of employee

effectiveness was positive and significant ($r = .40, p < .05$), but when considered using path analysis, I find no significant relationship between LMX and evaluations of effectiveness ($B = .10, p > .05$). As such, Hypothesis 3 is not supported. Building on these prior three hypotheses, I next hypothesized a positive (4a) and negative (4b) indirect effect of sharing bad news on evaluations of employee effectiveness through LMX. Table 6 reports the results for these hypotheses, showing that neither 4a nor 4b was supported (*indirect effect* = .002, 95% CI = -.002, .01). It should be noted that all confidence intervals reported in this study have been corrected for bias using a Monte Carlo re-sampling approach (Preacher & Selig, 2012). Using an R program, I estimate confidence intervals using 20,000 re-samples.

After exploring the relationships associated with social exchange, I next examined the set of hypotheses related to challenge and hindrance appraisals (Hypotheses 5 -7). First, I predicted that sharing bad news would related positively to both challenge appraisals (5a) and hindrance appraisals (5b). Looking again at the correlations reported in Table 5, sharing bad news is positively related to challenge appraisals ($r = .14, p < .05$), but not significantly related to hindrance appraisals ($r = -.07, p > .10$). Although these correlations lend support to the idea that sharing bad news influences challenge appraisals, but not hindrance appraisals, results of the path analysis reveal that sharing bad news is not significantly related to either challenge appraisals ($B = -.01, p > .05$) or hindrance appraisals ($B = .02, p > .05$). Thus, neither Hypothesis 5a nor Hypothesis 5b is supported.

Hypothesis 6a predicted that challenge appraisals would be positively related to LMX, whereas Hypothesis 6b predicted that hindrance appraisals would be negatively

related to LMX. In again referring first to correlations, challenge appraisals were found to be positively related to LMX ($r = .41, p < .05$) and hindrance appraisals were found to be negatively related to LMX ($r = -.33, p < .05$). A similar pattern of relationships emerged though path analysis. That is, challenge appraisals had a significant positive relationship with LMX ($B = .12, p < .10$), and hindrance appraisals has a significant negative relationship with LMX ($B = -.34, p < .05$), even when controlling for prior performance. In other words, both Hypothesis 6a and 6b were supported.

Next, I predicted the indirect effect of sharing bad news on LMX through each challenge and hindrance appraisals. In Hypothesis 7a, I suggested that sharing bad news would have a positive indirect effect on LMX through challenge appraisal. As Table 6 shows, this hypothesis was not supported (*indirect effect* = $-.00$, 95% CI = $-.01, .01$). Hypothesis 7b examined the indirect effect of sharing bad news on LMX through hindrance appraisals, and this hypothesis was also not supported (*indirect effect* = $-.01$, 95% CI = $-.03, .02$).

Having explored the indirect effects of the focal variables, I considered the effects of potential moderators, specifically timeliness, offering solutions, and responsibility for the bad news (Hypotheses 8-12). Each of these moderators, as well as the sharing bad news construct and control variables, were group-mean centered in these analyses. Although I did capture both supervisor neuroticism and trust propensity with the intention of using these variables as controls in the analyses, I removed them when it became apparent that the results of the analyses were unchanged regardless of whether these variables were included or excluded (Atinc, Simmering, & Kroll, 2012; Becker, 2005; Carlson & Wu, 2012). However, prior performance was retained as a control variable, as

it was found to correlate significantly with a number of the focal variables and accounted for variance within the analyses.

In Hypothesis 8a, I predicted that timeliness moderated the relationship between sharing bad news and challenge appraisals such that the positive relationship was stronger when timeliness was high. The maximum likelihood estimation results for this analysis are reported in Table 7. In model 1, I show the effects of sharing bad news on challenge appraisals when controlling for prior performance. Model 2 also shows these variables, but includes timeliness, and the interaction between sharing bad news and timeliness. In looking specifically at the interaction term, I find no significant effect on challenge appraisals ($B = .17, p > .10$), meaning that Hypothesis 8a is not supported.

I also considered the interaction of sharing bad news and timeliness on hindrance appraisals. That is, I proposed in Hypothesis 8b that timeliness moderates the relationship between sharing bad news and hindrance appraisals such that the positive relationship is weaker when timeliness was high. In looking at Model 4 of Table 7, the effect of timeliness on hindrance appraisals is significant ($B = -.26, p < .05$), but the effect of the interaction between sharing bad news and timeliness on hindrance appraisals is not significant ($B = .06, p > .10$). Therefore, Hypothesis 8b is also not supported.

The next set of hypotheses considered the moderating effects of offering solutions. Hypothesis 9a predicted the effect of offering solutions on the relationship between sharing bad news and challenge appraisals. As model 1 in Table 8 shows, sharing bad news does not have a significant direct effect on challenge appraisals when controlling for prior performance; however, there is a significant direct effect of offering solutions on challenge appraisals ($B = .27, p < .05$; shown in model 2). Further, the

interaction between sharing bad news and offering solutions also has a significant effect on challenge appraisals ($B = .18, p < .05$). In order to better understand the meaning of this interaction, I plotted the simple slopes, shown in Figure 2. Both of the simple slopes were significant (simple slope when offering solutions is high = $.15, p < .05$; simple slope when offering solutions is low = $-.16, p < .05$). As predicted, this interaction suggests that positive relationship between sharing bad news and challenge appraisals is enhanced when offering solutions is high, but that the relationship is weakened when offering solutions is low. Consequently, Hypothesis 9a is supported and the implications of this finding will be discussed further in the next chapter.

Similar to Hypothesis 9a, Hypothesis 9b examined the moderating effects of offering solutions on the relationship between sharing bad news and hindrance appraisals. In looking at models 3 and 4 of Table 8, it is clear that sharing bad news does not have a significant direct effect on hindrance appraisal. Although, offering solutions is significantly related to hindrance appraisals ($B = -.15, p < .10$), there is not significant effect of the interaction between sharing bad news and offering solutions on hindrance appraisals. Based on these findings, Hypothesis 9b is not supported.

Hypothesis 10a considers the influence of responsibility for the bad news on the relationship between challenge appraisal and LMX. In first looking at model 1 of Table 9, challenge appraisals have a positive and significant relationship with LMX, even when controlling for prior performance ($B = .12, p < .10$). In model 2, I add responsibility and the interaction between challenge appraisals and responsibility to the regression. Neither of these terms are significant. As such, Hypothesis 10a is not supported.

A similar pattern of results emerges with regard to Hypothesis 10b, which predicted that responsibility for the bad news would strengthen the negative relationship between hindrance appraisals and LMX. As shown in model 4 of Table 9, hindrance appraisals have a significant negative direct effect on LMX ($B = -.44, p < .05$), but neither responsibility, nor the interaction between hindrance appraisals and responsibility for the bad news has a significant effect on LMX, suggesting that Hypothesis 10b is also not supported.

Finally, my last group of Hypotheses (11 – 12) considers how timeliness, offering solutions, and responsibility could moderate the indirect effect of sharing bad news on evaluations of effectiveness through the appraisal mechanism (either challenge or hindrance appraisals) and LMX. However, given that many of the moderation effects were not supported in previous hypotheses, most of these relationships are not supported. For example, Hypothesis 11a suggested that the positive indirect effect of sharing bad news on evaluations of employee effectiveness through challenge appraisals and LMX would be strengthened when timeliness was high. However, the interaction of sharing bad news and timeliness on challenge appraisals was not significant, meaning that Hypothesis 11a is not supported. Similarly, Hypothesis 11c predicted that high levels of timeliness would weaken the negative indirect effect of sharing bad news on supervisor evaluations of effectiveness through hindrance appraisals and LMX. However, the interaction between sharing bad news and timeliness was not significant; consequently, Hypothesis 11c is not supported. Hypothesis 11d, which predicted that high levels of offering solutions would weaken the negative indirect effect of sharing bad news on evaluations of effectiveness through hindrance appraisals and LMX, was also not supported, as the interaction

between sharing bad news and offering solutions did not have a significant relationship with hindrance appraisals.

The moderated mediation effects of responsibility in the second stage of the path model were also not supported. That is, the interaction between challenge appraisals and responsibility did not have a significant effect on LMX, nor did the interaction between hindrance appraisals and responsibility have a significant effect on LMX. As such, Hypothesis 12a, which predicted that the positive indirect effect of sharing bad news on evaluations of employee effectiveness through challenge appraisals and LMX would be weaker when responsibility was high, was not supported. Hypothesis 12b, which predicted that the negative indirect effect of sharing bad news on evaluations of employee effectiveness through hindrance appraisals and LMX would be stronger when responsibility was high, was also not supported.

However, based on the results of Hypothesis 9a, the interaction between sharing bad news and offering solutions did have a significant effect on challenge appraisals. Hypothesis 11b extended the predictions of Hypothesis 9a, suggesting that the positive indirect effect of sharing bad news on evaluations of effectiveness through challenge appraisals and LMX would be strengthened when offering solutions is high. I examined this hypothesis by first looking at the difference between the indirect effects of sharing bad news on LMX through challenge appraisals when offering solutions was high versus when offering solutions was low. As shown in Table 10, the difference in these indirect effects was not significant (difference = .05, 95% CI = -.01, .12). Next I considered the indirect effect of sharing bad news on evaluations of employee effectiveness through challenge appraisals, and found that the difference in the indirect effects between high

levels of offering solutions and low levels of offering solutions was significant (difference = .24, 95% CI = .05, .44). Finally, I examined the indirect effect of sharing bad news on evaluations of effectiveness through both challenge appraisals and LMX. The difference in this indirect effect at high levels of offering solutions and low levels of offering solutions was not significant (difference = .04, 95% CI = -.01, .09). Based on these findings, Hypothesis 11b was not supported.

To summarize, although I was able to find some significant correlations among many of the focal variables in the analysis, the majority of my proposed hypotheses were not supported. Perhaps most notably, I did find a significant interaction effect of sharing bad news and offering solutions on challenge appraisals, and this effect was in the direction predicted. I consider the reasons for this particular finding in the next chapter. I follow my analysis of the field sample by next exploring the results of my analysis for the lab study.

Results of Study 3: Lab Study of Sharing Bad News

Manipulations. Before examining the results of Study 3, it is first important to establish that the manipulations executed within the study were effective. For each of the manipulations, participants were provided a single-item statement, included in Appendix I, and asked to rate the extent they agree with the statement using a five-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree). For example, in the “offering solutions” condition, participants were provided the statement “The water carrier offered a solution for addressing any news about an error or mistake that had or could have had really bad implications for our

team's ability to put out the fires." A rating of 4 or 5 in response to this statement suggests that the participant believed the water carrier had offered a solution.

Each manipulation was evaluated using a t-test analysis, the results of which are reported in Table 12. In first considering the severity of bad news condition, the mean of the severe bad news condition ($M = 3.30$, $SD = 1.14$) was significantly higher than the mild bad news condition ($M = 2.56$, $SD = 1.39$, $t(96) = -2.87$, $p < .01$). This suggests that participants tended to experience the severe bad news condition as significantly more severe than in the mild condition. In next looking at the timeliness condition, the mean of the timely condition ($M = 2.92$, $SD = 1.22$) was significantly higher than the untimely condition ($M = 2.54$, $SD = 1.04$, $t(108) = -1.77$, $p < .10$). That is, participants in the timely condition rated the sharing of bad news by the confederate as more timely than did participants in the untimely condition. For the offering solutions condition, the mean of the solution condition ($M = 3.96$, $SD = .99$) was significantly higher than the no solution condition ($M = 3.05$, $SD = 1.20$, $t(109) = -4.28$, $p < .01$). Thus, participants in the solution condition believed the confederate offered a solution significantly more than did participants in the no solution condition. Finally, the mean of the responsible condition ($M = 2.94$, $SD = 1.17$) was significantly higher than the not responsible condition ($M = 2.39$, $SD = 1.16$, $t(109) = -2.44$, $p < .01$), meaning that individuals in the responsible condition believed the confederate was at fault significantly more than participants in the not responsible condition. In sum, each of the manipulations was found to be significant, suggesting that each was effective in creating the desired condition.

Evaluation of hypotheses. After ensuring that the manipulations were effective, I conducted a CFA to evaluate the fit of the hypothesized model to the data. As in Study 2,

I first examined my proposed model, and then compared the fit of my proposed model to a series of alternative models. The results of this analysis are shown in Table 13. The proposed model consisted for four distinct factors (challenge and hindrance appraisals, LMX, and evaluations of effectiveness), and had acceptable fit: $\chi^2(113) = 162.26, p < .01$; RMSEA = .06; CFI = .94; TFI = .93; SRMR = .07. I next considered a 3-factor model in which the items for challenge and hindrance appraisals were combined on the same factor, and LMX and evaluations of effectiveness were kept as unique factors. I also considered a 2-factor model in which the items for challenge and hindrance appraisals were combined on a single factor, and the items for LMX and evaluations of effectiveness were combined on a single factor. Finally, I evaluated a 1-factor model. As in Study 2, the difference in the chi-squared value for each of the alternative models was significant, indicating that my proposed model was the best fit.

Having assessed model fit, I next considered the hypotheses proposed in this study. The means, standard deviations, and zero-order correlations for each of the study variables are reported in Table 14. Further, a summary of the hypothesized relationships for the lab study is shown in Figure 3.

My initial group of hypotheses (Hypotheses 1 -4) considered the exchange relationship between sharing bad news and evaluations of effectiveness with LMX as the key exchange variable transmitting this effect. My first hypotheses postulated that sharing bad news would be positively (1a) or negatively (1b) related to evaluations of effectiveness. In looking at the correlation between sharing bad news and evaluations of effectiveness, the value of the correlation is small and negatively valenced, but is not significant ($r = -.07, p > .10$). The results of the ANCOVA also demonstrate a non-

significant relationship between sharing bad news and evaluations of effectiveness ($F_{(1, 105)} = .18, p = .67, \eta^2 = .00$). Consequently, neither Hypothesis 1a nor 1b is supported. Hypotheses 2a and 2b similarly offer competing predictions regarding the relationship between sharing bad news and LMX. However, these hypotheses were also unsupported as the correlation between sharing bad news and LMX was found to be non-significant ($r = .07, p > .10$), and the results of the ANCOVA again indicated a non-significant relationship ($F_{(1, 105)} = .85, p = .36, \eta^2 = .01$). The third hypothesis suggested that LMX would be positively related to evaluations of effectiveness. The correlation between LMX and evaluations of effectiveness was positive and significant ($r = .41, p < .05$). I also considered the relationship between LMX and evaluations of effectiveness using path analysis and obtained a significant result ($B = .29, p < .05$). As such, Hypothesis 3 is supported. Finally, I considered the indirect effect of sharing bad news on evaluations of effectiveness through LMX. As shown in Table 15, the indirect effect was not significant (*indirect effect* = .03, 95% CI = -.04, .10). The confidence intervals were corrected for bias using 5,000 bootstrapped samples (Edwards & Lambert, 2007; MacKinnon, Fairchild, & Fritz, 2007; Preacher, Rucker, & Hayes, 2007). It should be noted that all reported confidence intervals in this study have been corrected for bias using this bootstrapping approach.

In the next group of hypotheses (Hypotheses 5 -7), I considered relationships between challenge and hindrance appraisals and the other focal variables in the model. Hypotheses 5a and 5b predicted that sharing bad news would be positively related to both challenge and hindrance appraisals. Referring to the correlations reported in Table 14, sharing bad news was not significantly correlated with either challenge appraisals ($r = -$

.04, $p > .10$) or hindrance appraisals ($r = -.07$, $p > .10$). Using ANCOVA to further explore these relationships, I find a similar pattern. That is, sharing bad news was not significantly related to either challenge appraisals ($F_{(1, 105)} = .01$, $p = .91$, $\eta^2 = .00$) or hindrance appraisals ($F_{(1, 105)} = .35$, $p = .56$, $\eta^2 = .00$). Based on these findings, neither Hypothesis 5a nor 5b is supported.

Hypothesis 6a predicted that challenge appraisals would be positively related to LMX, and a significant correlation between these variables provides some initial support for this hypothesis ($r = .40$, $p < .05$). I test this relationship more thoroughly using path analysis, and find that this effect is also positive and significant ($B = .24$, $p < .05$), providing stronger evidence that Hypothesis 6a is supported. Hypothesis 6b predicted that hindrance appraisals would be negatively related to LMX, but I do not find a significant correlation between these variables ($r = -.05$, $p > .10$), nor are the results of the path analysis significant ($B = .05$, $p > .10$). These findings suggest that Hypothesis 6b is not supported. Hypotheses 7a and 7b considered the indirect effect of sharing bad news on LMX through each challenge and hindrance appraisals. Specifically, Hypothesis 7a predicted a positive indirect effect of sharing bad news on LMX through challenge appraisals, whereas Hypothesis 7b predicted a negative indirect effect of sharing bad news on LMX through hindrance appraisals. In referring to Table 15, the indirect effect of sharing bad news on LMX was not significant through challenge appraisals (*indirect effect* = -.00, 95% CI = -.07, .07) and was also not significant through hindrance appraisals (*indirect effect* = -.01, 95% CI = -.04, .03). Thus, neither Hypothesis 7a nor 7b are supported.

Hypotheses 8 – 10 examined the potential moderating conditions of sharing bad news. For these hypotheses, sharing bad news was centered using grand mean centering, as were each of the moderating conditions (timeliness, offering solutions, and responsibility) and control variables. Further, although neuroticism and trust propensity were anticipated to be included as controls in these analyses, neither of these variables had significant correlations with the focal variables. Additionally, the results of these analyses when neuroticism and trust propensity were included were no different than the results when these variables were excluded from the analysis. Consequently, neuroticism and trust propensity were not included in the analyses, based on the guidelines offered by Atinc, Simmering, and Kroll (2012), Becker (2005), and Carlson and Wu (2012).

Hypothesis 8a suggested that timeliness moderated the relationship between sharing bad news and challenge appraisals such that the positive relationship was stronger when timeliness was high. Table 16 reports the maximum likelihood estimation results for this analysis. Model 1 reflects the effects of sharing bad news on challenge appraisal when controlling for psychological safety, goal commitment, and the confederate. Model 2 shows the results when the moderator (timeliness) and the interaction term (sharing bad news x timeliness) are added to the regression. Sharing bad news ($B = -.02, p > .10$), timeliness ($B = .22, p > .10$), and the interaction between sharing bad news and timeliness ($B = -.35, p > .10$) were all found to have a non-significant relationship with challenge appraisals. Consequently, Hypothesis 8a is not supported.

Hypothesis 8b predicted that timeliness moderated the relationship between sharing bad news and hindrance appraisals such that the positive relationship would be weaker when timeliness was high. Referring again to Table 16, Model 3 shows that

sharing bad news is not significantly related to hindrance appraisals when controlling for psychological safety, goal commitment, and the confederate. However, as shown in Model 4, the interaction term between sharing bad news and timeliness is significant on hindrance appraisals ($B = -.65, p < .10$), even though the direct effects of sharing bad news ($B = -.10, p > .10$) and timeliness ($B = -.08, p > .10$) on hindrance appraisals are not significant. A plot of this interaction is shown in Figure 4, and, as is noted in the figure, the simple slope for high timeliness is significant (simple slope at high timeliness = $-.67, p < .10$), but the simple slope at low timeliness is not significant (simple slope at low timeliness = $-.12, p > .10$). This interaction suggests that when the sharing of bad news is very timely (high timeliness), the extent to which individuals appraise the sharing of bad news as hindering is reduced. Consequently, Hypothesis 8b is supported.

Hypotheses 9a and 9b predict a similar pattern of relationships with offering solutions as a moderator of sharing bad news on challenge and hindrance appraisals. Table 17 shows the results of the maximum likelihood estimations for these hypotheses. First, Hypothesis 9a posits that high levels of offering solutions will increase the positive relationship between sharing bad news and challenge appraisals. Although Model 2 demonstrates a strong, significant direct effect of offering solutions on challenge appraisals ($B = .46, p < .05$), the interaction between sharing bad news and offering solutions was not significant ($B = -.07, p > .10$). Thus, Hypothesis 9a was not supported.

In considering Hypothesis 9b, which suggested that high levels of offering solutions would decrease the positive relationship between sharing bad news and hindrance appraisals, Model 3 in Table 17 shows the effects of sharing bad news on hindrance appraisals with just the control variables whereas Model 4 includes offering

solutions and the interaction between sharing bad news and offering solutions. As shown in Model 4, the interaction term of sharing bad news and offering solutions has a significant positive effect on hindrance appraisals ($B = .73, p < .10$). To further examine this effect, I graphed the interaction, shown in Figure 5. Although neither of the simple slopes were significant (simple slope when offering solutions is high = $.61, p > .10$; simple slope when offering solutions is low = $-.10, p < .05$), the direction of the interaction suggests that when bad news is shared, high offering of solutions is likely to increase hindrance appraisals whereas low offering of solutions is likely to decrease hindrance appraisals. Though significant, this effect was opposite of what was predicted; consequently, Hypothesis 9b is not supported.

The next two hypotheses explored the influence of responsibility for the bad news on the relationships between challenge and hindrance appraisals and LMX. Hypothesis 10a predicted that responsibility for bad news would suppress the positive relationship between challenge appraisals and LMX. In looking at Table 18, Model 1 shows a significant relationship between challenge appraisals and LMX ($B = .23, p < .05$), even when controlling for psychological safety, goal commitment, and the confederate. However, as shown in Model 2, neither responsibility, nor the interaction of challenge appraisals and responsibility, has a significant effect on LMX. As such, Hypothesis 10a is not supported.

Hypothesis 10 predicted that high levels of responsibility for the bad news would enhance the negative relationship between sharing hindrance appraisals and LMX. In looking at Model 3 on Table 15, hindrance appraisals do not have a significant direct effect on LMX. In looking at Model 4, the direct effect of neither hindrance appraisals

nor responsibility is significant on LMX; however, the interaction of hindrance appraisals and responsibility is significant ($B = .25, p < .05$). A plot of this interaction is depicted in Figure 6. As shown in the figure, the simple slope of high responsibility is significant ($.33, p < .05$) and the simple slope of low responsibility is not significant ($.07, p > .10$). The direction of this interaction suggests that when supervisors make a hindrance appraisal, high levels of responsibility are likely to increase LMX whereas low levels of responsibility are likely to decrease LMX. Again, this outcome is opposite of what was hypothesized; thus, Hypothesis 10b is not supported, in spite of the significant result.

The last group of hypotheses (11 – 12) built upon the prior hypotheses and predicted a series of possible moderated mediation effects. Hypothesis 11a predicted that timeliness would moderate the indirect effect of sharing bad news on evaluations of effectiveness through challenge appraisals and LMX such that the indirect effect would be more positive when timeliness was high. Similarly, Hypothesis 11b predicted that offering solutions would moderate the indirect effect of sharing bad news on evaluations of effectiveness through challenge appraisals and LMX such that the positive indirect effect would be stronger when offering solutions was high. However, as the interaction terms of sharing bad news and timeliness and sharing bad news and offering solutions were not significant on challenge appraisals, neither of the moderated mediation hypotheses were found to be significant. Thus, hypotheses 11a and 11b are not supported. Similarly, the interaction term of challenge appraisals and responsibility was not significant when regressed on LMX. This suggests that Hypothesis 12a, which postulated that the positive indirect effect of sharing bad news on evaluations of effectiveness through challenge appraisal and LMX would be weaker when responsibility was high, is also not supported.

However, as significant moderation effects were found for hypotheses 8b, 9b, and 10b, the corresponding moderated mediation hypotheses can be explored. I first consider Hypothesis 11c, which suggested that timeliness moderates the indirect effect of sharing bad news on evaluations of effectiveness through hindrance appraisal and LMX such that the negative effect is weaker when timeliness was high. Table 19 shows the results of this analysis. I first examined the effect of timeliness on the indirect effect of sharing bad news through hindrance appraisals with LMX as the dependent variable. The difference between the indirect effect at high levels of timeliness and low levels of timeliness was not significant (difference = $-.03$, 95% CI = $-.14, .07$). Next I considered the effect of timeliness on the indirect effect of sharing bad news on evaluations of effectiveness through hindrance appraisals. Again, the difference of the indirect effect at high levels of timeliness and low levels of timeliness was not significant (difference = $-.19$, 95% CI = $-.42, .04$). Finally, I examined the effect of timeliness on the indirect effect of sharing bad news on evaluations of effectiveness through both hindrance appraisal and LMX. The difference of the indirect effect at high levels of timeliness and low levels of timeliness was again not significant (difference = $-.01$, 95% CI = $-.04, .02$). Based on these results, the moderated mediation predicted in Hypothesis 11c was not supported.

I used a similar approach to examine Hypothesis 11d, which predicted that high levels of offering solutions would weaken the negative indirect effect of sharing bad news on evaluations of effectiveness through hindrance appraisal and LMX. First, as noted in Table 20, the difference between high levels of offering solutions and low levels of offering solutions was not significant when considering the indirect effect of sharing bad news on LMX through hindrance appraisals (difference = $.04$, 95% CI = $-.07, .13$).

Next, I examined the effect of offering solutions on the indirect effect of sharing bad news on evaluations of effectiveness through hindrance appraisals. The difference between high levels of offering solutions and low levels of offering solutions was not significant for this indirect effect (difference = .21, 95% CI = -.03, .40). I then considered the difference between high levels of offering solutions and low levels of offering solutions on the indirect effect of sharing bad news on evaluations of effectiveness through both hindrance appraisals and LMX. The difference in this indirect effects was also not significant (difference = .01, 95% CI = -.02, .04). Thus, Hypothesis 11d was not supported.

The final Hypothesis (12b) predicted that responsibility for the bad news would moderate the indirect effect of sharing bad news on evaluations of effectiveness such that the negative indirect effect would be stronger when responsibility for the bad news was high. The results of this analysis are reported in Table 21. To examine this hypothesis, I first considered the difference between high levels of responsibility and low levels of responsibility on the indirect effect of hindrance appraisals on evaluations of effectiveness through LMX. The difference in this indirect effect was not significant (difference = .08, 95% CI = -.01, .17). Next, I considered the effect of responsibility on the indirect effect of sharing bad news on evaluations of effectiveness through both hindrance appraisal and LXM. The difference between high levels of responsibility and low levels of responsibility was not significant (difference = -.01, 95% CI = -.04, .02). Consequently, Hypothesis 12b was not supported.

In sum, the results of the analysis for the lab study suggest that many of the hypothesized relationships were not supported. However, significant moderation was

found for both timeliness and offering solutions with respect to the relationship between sharing bad news and hindrance appraisals. Additionally, a significant moderation effect was also found for responsibility on the relationship between hindrance appraisals and LMX. The implications of these findings are discussed in more detail in the next chapter.

CHAPTER 6

DISCUSSION

Prior research has largely associated the sharing of bad news with leader-initiated communication to employees regarding significant workplace events that occur infrequently, such as downsizing or pay cuts. However, this perspective has ignored the idea that “bad news” can occur much more regularly in the workplace, and often on a much smaller scale. Within the workplace, minor mistakes or errors are a frequent occurrence, and often it is employees, as opposed to leaders, who are the first to become aware of these issues. Thus, the first purpose of this study is to develop the concept of sharing bad news as a form of communication from an employee to a supervisor regarding these critical mistakes or errors. Although some prior work has considered the sharing of bad news as an employee behavior, this work has primarily focused on the factors that encourage an employee to share the information, such as personal characteristics or situational factors. This focus on the antecedents of sharing bad news has ignored the potential consequences of the behavior to the messenger, both in terms of the quality of the messengers’ relationships with their supervisor, as well as how supervisors rate employees’ effectiveness. As such, the second key purpose of my dissertation is to consider the outcomes of sharing bad news, in particular, exploring the mechanisms through which sharing bad news influences supervisor evaluations of employee effectiveness. My dissertation consisted of three studies designed to explore these limitations in the literature, and I discuss the studies, as well as the implications of my findings, in more detail below.

Summary of results

Study 1. The purpose of the first study was to clearly define the concept of sharing bad news and to develop a scale to capture the newly created construct. I first compared the definition of sharing bad news to other established measures of speaking up, including promotive and prohibitive voice, whistle-blowing, and issue selling. When none of the items within these measures adequately captured the sharing bad news construct, I created my own set of 16 items. After evaluating the items for substantive validity, I removed one of the items. I then considered the discriminant validity of the 15-item sharing bad news scale, again comparing it to promotive and prohibitive voice, whistle-blowing and issue selling. Using CFA, I determined that the best fitting model was one in which each of the constructs was designated as its own factor. The results of the CFA provide support for the uniqueness of the sharing bad news measure. In addition, I further examined the validity of the sharing bad news scale by using the guidelines offered by Fornell and Larcker (1981). The sharing bad news scale not only had high composite reliability, but also acceptable convergent and discriminate validity using this approach. In sum, Study 1 not only helped establish the concept of sharing bad news, but provided a viable measure for use in this study, as well as for scholars who are interested in understanding the impact of sharing bad news in the workplace.

Study 2 (Field) and Study 3 (Lab). Using the measure of sharing bad news developed in Study 1, Study 2 was designed as a test of the conceptual model within a field setting. The lab study (Study 3) was also designed to test the full conceptual model with the intention of helping to establish causality of the relationships and rule out alternative explanations. Although many of the hypotheses were unsupported in either of

these studies, my dissertation did reveal some important findings. For example, one of the key purposes of this dissertation was to understand the relationship between sharing bad news and evaluations of employee effectiveness. In examining the field data, I did find a positive and significant correlation between sharing bad news and evaluations of effectiveness. However, this association was not supported when path analysis was used to examine the relationship. I was also unable to find a significant relationship between sharing bad news and evaluations of employee effectiveness in my analysis of the lab data. Regardless, the significant correlation in the field study hinted at the possibility of a relationship between sharing bad news and evaluations of employee effectiveness, and provided motivation to further examine the how these variables may be linked.

To explain why sharing bad news and evaluations of effectiveness might be related, I considered the sharing of bad news in terms of a social exchange between an employee and supervisor, and explicitly examined LMX as a critical transmitter of the effect between sharing bad news and evaluations of effectiveness. I was unable to find support for the relationship between sharing bad news and LMX in either the field study or the lab study, but in the lab study, I did find strong support for the relationship between LMX and evaluations of effectiveness. This finding supports prior work in the literature which has found a significant relationship between LMX and employee performance. Finally, my hypotheses for LMX as a mediator of the relationship between sharing bad news and evaluations of employee effectiveness (hypotheses 4a and 4b) was not supported in either the field data or the lab data. On the surface, these findings seem to suggest very little support for the notion of exchange as the primary mechanism for transmitting the effects of sharing bad news to evaluations of effectiveness. However,

Rucker et al. (2011) has suggested that mediation may still be present even when a direct effect does not exist, meaning that there could be an indirect effect of sharing bad news on LMX. Thus, I was still able to assess my hypotheses regarding the potential mediating effects of challenge and hindrance appraisals in the relationship between sharing bad news and employee effectiveness.

In considering the possible mediating effects of challenge and hindrance appraisals more specifically, I proposed that each challenge and hindrance appraisals would mediate the relationship between sharing bad news and LMX, but was unable to find support for these indirect effects in either the field or lab study. It is possible that the lack of significant findings for the indirect pathways is in part due to the direct relationships between sharing bad news and challenge and hindrance appraisals. In examining these links specifically, I found that neither study supported a significant relationship between sharing bad news and challenge appraisals, nor did either study support a significant relationship between sharing bad news and hindrance appraisals. Although it is possible that these variables are simply unrelated, as there was no evidence to support these relationships in either study, it is also possible that the relationships between sharing bad news and each challenge and hindrance appraisals are conditional, and I subsequently considered the effects of the proposed moderators, specifically timeliness and offering solutions.

With regard to timeliness, I proposed that the positive relationship between sharing bad news and challenge appraisals would be strengthened at high levels of timeliness. I did not find support for this hypothesis in either the field study or the lab study. However, I also proposed that the positive relationship between sharing bad news

and hindrance appraisals would be weakened at high levels of timeliness. Although I did not find support for this relationship in the field study, I did find significant results for this interaction in the lab study. That is, when individuals shared bad news, being very timely (high timeliness) decreased the hindrance appraisals made by leaders whereas low levels of timeliness increased supervisors' hindrance appraisals. These findings suggest that when employees share bad news, supervisors are less likely to perceive the news as threatening or hindering when the news has been delivered promptly as opposed to when messengers allow some time to pass before sharing the information. Conceivably, timely delivery of bad news messages provides supervisors with greater opportunity to resolve the issue and more flexibility in determining when and how the issue will be fixed. In this regard, supervisors would feel less hindered or impeded by the sharing of bad news.

When messengers are untimely in message delivery, the consequences of the bad news event may be more imminent, and supervisors may be forced into dealing with the issue right away, disrupting other work tasks or not allowing for effective resolution of the bad news event. Consequently, supervisors may appraise the sharing of bad news with low timeliness are more hindering, or threatening to their goal achievement. More generally, the results of the lab study suggest that timeliness is highly relevant to the sharing of bad news point to a need for more research on the role of timeliness in the relationship between sharing bad news and appraisals, particularly hindrance appraisals.

In addition to considering the moderating role of timeliness, I also examined how offering solutions could influence the relationships between sharing bad news and each challenge and hindrance appraisals respectively. In looking first at the relationship between sharing bad news and challenge appraisals, I hypothesized that the positive

relationship would be strengthened when offering solutions was high. Although this hypothesis was not supported in the lab study, I did find support for this relationship in the field study. This finding lends credence to the notion that when leaders are presented with a solution, it fosters a belief that the issue being raised may have beneficial outcomes. For instance, offering a solution when bad news is shared may highlight the opportunities for growth or gain that may be possible by resolving the issue. Offering a solution may also introduce ideas or suggestions that could have longer term benefits to task effectiveness or efficiency, or could similarly encourage thinking in ways that help improve the workplace more generally. In sum, it is possible that offering a solution helps bring out the “silver lining” of the bad news event, and as such, leaders appraise the sharing of bad news as challenging when the news is accompanied by a solution.

I next hypothesized that the positive relationship between sharing bad news and hindrance appraisals would be weakened when offering solutions was high. Though I did not find support for this hypothesis in the field data, I did obtain a significant interaction between sharing bad news and offering solutions in the lab data. Specifically, I found that high levels of offering solutions enhanced the relationship between sharing bad news and hindrance appraisals whereas low levels of offering solutions weakened the relationship between sharing bad news and hindrance appraisals. At first glance, these results seem counterintuitive, as offering solutions is generally viewed as a helpful, not inhibiting, and provides actionable steps forward for resolving the bad news event. However, offering solutions may also serve as an informal assignment of unexpected tasks to the supervisor. In other words, being provided with solutions may create the expectation that the supervisor must take action and do something to resolve the issue. Thus, it is possible that

offering solutions creates a greater demand on the supervisor's time, attention, and resources in ways that are unanticipated and likely interfere with task completion or goal attainment. That is, the demand created by the sharing of bad news may be exacerbated when the supervisor is pushed into a position of having to address the issue, as when a solution is presented alongside the sharing of the bad news. The notion that helpful behaviors, such as offering solutions, could create additional work for supervisors is an interesting idea that could be examined further in future research. It is possible that well-intentioned efforts to mitigate the negative aspects of bad news, such as offering solutions, by employees actually lead supervisors to evaluate the sharing of the news more negatively than when employees refrain from being helpful. Along these lines, it may be worthwhile to consider who is responsible for executing the solutions (i.e., employee or supervisor) proposed by the messenger when bad news is shared, as ownership of the solution may influence the extent to which sharing bad news is appraised as more hindering when solutions are offered.

To summarize, the results of both the field and the lab study suggest that offering solutions is important to the sharing of bad news, and additional work is needed to fully understand the implications of how supervisors appraise the sharing of bad news when a solution is also included in the message. For example, in considering the findings of both studies together, it is possible that offering solutions with bad news triggers a stress response in supervisors more generally. That is, it may be the case that supervisors are more likely to appraise the sharing of bad news as demanding when it is accompanied by a solution, and whether the sharing of bad news is more specifically appraised as challenging or hindering when a solution is offered may be contingent on other factors,

such as individual difference in the messenger, or situational factors in the work environment. Future research could explore this possibility in more detail.

Another important link examined in my dissertation was the relationship between each challenge and hindrance appraisals and LMX. The results of the field study suggest that challenge and hindrance appraisals were related to LMX as predicted. That is, challenge appraisals were found to be positively related to LMX and hindrance appraisals were found to be negatively related to LMX. In the lab study, I also found support for the relationship between challenge appraisals and LMX, but did not find significant results for the relationship between hindrance appraisals and LMX. The findings in both of these studies suggest that the way in which supervisors evaluate the demands of their work environment can influence the quality of their relationships with their employees. More specifically, this suggests that when leaders assess workplace demands as more challenging, or likely to result in reward or gain, the exchange relationship with employees is enhanced. However, when supervisors view demands as hindering, or likely to prevent growth or goal attainment, the quality of their relationships with employees are likely to be diminished. Additionally, whereas prior work has often considered exchange relationships in terms of the positive resources exchanged between leaders and followers, this study provides some evidence that the quality of the exchange relationship can be influenced by negative transactions, such as hindrance appraisals of sharing bad news.

In addition to examining the direct pathway between each challenge and hindrance appraisals and LMX, I also explored potential moderating factors of these respective relationships. In particular, I hypothesized that being responsible for the bad news being shared would weaken the positive relationship between challenge appraisals

and LMX and strengthen the negative relationship between hindrance appraisals and LMX. I did not find support for my hypothesis along the challenge pathway in either the field study or the lab study. The interaction effect of responsibility and hindrance appraisals on LMX was also not supported in the field study. However, I did find a significant interaction effect between hindrance appraisals and responsibility in the lab study, but instead of further diminishing the exchange relationship, being responsible for the bad news when a hindrance appraisal had been made actually enhanced LMX. One possible explanation for this finding is that the act of taking responsibility was seen as a positive action on the part of the messenger that suppressed the potentially negative consequences of having caused the issue in the first place. For example, in the lab study, the confederate actively claimed responsibility (“This is completely my fault. . .”) for the bad news event, and it is possible that leaders viewed this behavior as a proactive effort on the part of the confederate to help resolve the issue or maintain good relationships with the leader and team. Conversely, in the not responsible condition, the confederate denied responsibility (“This is not my fault. This wasn’t on my instructions...”), and it is possible that leaders interpreted the confederate’s behavior as refusing to take ownership for the problem, or more simply, making an excuse for the situation. Future research could further examine the influence of responsibility on the relationship between appraisals and LMX, and more clearly distinguish the influence of actively taking responsibility (or actively denying responsibility) on this relationship. Scholars could also explore how being at fault (or not) can influence relationships between appraisals and LMX when this information is not actively communicated with the sharing of bad news

and the degree to which a messenger is responsible for the bad news is obtained by leaders from sources other than the messenger.

Finally, I predicted a number of moderated mediation hypotheses. Specifically, I suggested that each timeliness, offering solutions, and responsibility for the bad news would moderate the indirect effect of sharing bad news on evaluations of effectiveness through a pathway mediated by challenge appraisals and LMX as well as through a pathway mediated by hindrance appraisals and LMX. The significant interaction between timeliness and sharing bad news on challenge appraisals in the field study, the significant interactions between sharing bad news and each timeliness and offering solutions on hindrance appraisals in the lab study, as well as the significant interaction between hindrance appraisals and responsibility on LMX in the lab study all suggest a potential to find moderated mediation; however, none of the hypothesized moderated mediation effects were found to be significant in either the field or the lab study. One potential reason for the lack of findings could be the lack of significant indirect effects found in the model. Another possible reason why I may not have found significant moderated mediation may be related to the overall complexity of the model and the limited sample size in both the field and lab study. The relatively small samples could have reduced statistical power such that moderated mediation effects were unable to be detected. Future research could evaluate these relationships using a larger sample.

Theoretical implications. This dissertation contributes to the existing literature in a number of ways. First, this research expands our current understanding of employees' sharing of bad news within the workplace. In addition to offering a definition of sharing bad news that is focused on employees' communication behaviors within the work

environment, I explore the consequences to employees when they share bad news. This focus on the outcomes of sharing bad news not only answers the question “do we shoot the messenger?,” but it also contributes to the literature on speaking up more broadly, as very few studies have considered the positive and negative implications for employees who share ideas or voice concerns. In this regard, my study is one of the first to consider how supervisors respond to employees who speak up, particularly those who speak up with negatively-valenced information.

Second, my research offers new insight to the theory of social exchange. Prior scholarly work has suggested that exchanges are generally based on the ongoing exchange of positive resources. However, my study introduces the idea that not all exchanges, particularly within the work environment, may be positive. That is, sometimes the resources employees share with supervisors, such as bad news, have negative connotations. Supervisors may reciprocate these less-than-desirable exchanges with outcomes for the employees that are equally less-than-desirable, such as lower rating of employee effectiveness. Although this idea was not fully supported, my analysis did offer some hints that both positive and negative exchanges may occur within the workplace. For example, in the field study, challenge appraisals were positively related to LMX whereas hindrance appraisals were negatively related to LMX. Future research could continue to explore the possibility that exchange relationships are built on both positive and negative transactions.

Finally, my study also has implications for the transactional theory of stress. In particular, I suggest that some demands within the work environment can be appraised as both challenging and hindering, even though prior research has tended to categorize

workplace demands as either one or the other. In addition, most of the significant interactions in my study occurred along the hindrance pathway (timeliness and offering solutions were found to moderate the relationship between sharing bad news and hindrance appraisals and responsibility was found to moderate the relationship between hindrance appraisals and LMX). This suggests that hindrance appraisals may be particularly important in understanding the effects of sharing bad news in the workplace. Future research on sharing bad news could further explore the relationship with hindrance appraisals and potential outcomes in the workplace.

Future Research Directions. My dissertation provides a number of possible directions for future research. As has been mentioned, the hindrance pathway linking sharing bad news to LMX, and ultimately evaluations of effectiveness seems particularly relevant to understanding supervisor responses. Indeed, I found significant interaction effects for each of the moderators along the hindrance pathway. However, it may also be worthwhile to further investigate the pathway through challenge appraisals. For example, results of the field study indicated that sharing bad news with a solution enhances challenge appraisals. In addition, both the field and lab study indicated a strong relationship between challenge appraisals and LMX. Although more limited than the findings related to the hindrance pathway, these results do suggest that the challenge pathway may also be relevant to supervisor responses to sharing bad news, but that further research is needed to better understand this potential mechanism.

Additionally, it is possible that there are additional moderating effects not captured in this study. For example, scholars have noted that forecasting, or the extent to which employees prepare supervisors for bad news in advance before actually delivering

the bad news message can influence supervisor responses (Maynard, 2003). More specifically, research has suggested that supervisors respond more favorably to individuals who forecast the sharing of bad news events because it removes surprise or uncertainty by allowing the recipient time to anticipate and prepare for the news (Maynard, 1996). Further, forecasting also has implications for the relationship between messenger and recipient (Maynard, 1996), making it potentially relevant to the ideas of exchange introduced here. As another example, frequency may also have an important moderating effect. Employees who speak up with bad news frequently (i.e., sharing numerous bad news events in a given period of time) may be viewed differently by supervisors than employees who speak up more rarely, and scholars could further explore how frequent versus infrequent sharing of bad news could influence the relationships proposed in this dissertation. Exploring additional moderators seems to be a particularly important direction for future research, as most of the significant findings in the hypothesized model were related to moderating effects.

Another possible direction for future research is related to the possible endogeneity in the current conceptual model. That is, individuals may share bad news because they have a strong relationship with their supervisor (high LMX), or because they are a high performer. To some extent, this possibility was accounted for in both the field and lab study. In the field study, ratings of LMX and employee effectiveness were collected one month after employees rated the sharing of bad news. Additionally, prior performance was used as a control variable in the analysis of the field data. Within the lab study, sharing bad news was a manipulated condition, and leaders rated both LMX and effectiveness following the simulation. However, exploring the possibility of

feedback loops within the current conceptual model could provide additional insight to the process of sharing bad news and supervisor responses. Specifically, future work could consider the effects of a feedback loop between LMX and sharing bad news, but also a feedback loop between evaluations of effectiveness and sharing bad news.

Finally, although both the field and the lab study examine supervisor responses to sharing bad news, each study takes a different perspective of the sharing bad news experience in the workplace. In the field study, sharing bad news is captured as a behavior in which employees generally engage. Similarly, the supervisor surveys assessed how supervisors likely appraise and respond to employees when bad news is shared. In essence, the field study captures *tendency*, or how employees tend to share bad news, and, in turn, how supervisors tend to respond. In contrast, the lab study captures a specific *instance* of sharing bad news, and considers how supervisors react given a particular bad news event. The notion of tendency versus instance may influence the proposed set of relationships within the study. For example, it is possible that the mechanisms that explain supervisor responses when sharing bad news is viewed as a tendency may differ from the mechanisms that explain supervisor responses in a given instance of sharing bad news. Relatedly, the moderators that are most relevant regarding the tendency to share bad news may also be different than those that are relevant to an instance of sharing bad news. The distinction between tendency and instance of sharing bad news offers new directions for future work, but more broadly suggests that scholars should account for speaking up as a tendency or instance in their work.

Limitations. My dissertation is also subject to several limitations. First, I am limited by the sample size in each of my studies. For the field study, the sample consists

of 201 employees; however, these individuals are nested within 18 leaders.

Unfortunately, given the complexity of the model, I could not analyze all of the relationships within the model simultaneously, as the number of parameters required to test the fully specified model exceeded the number of clusters (i.e., supervisors). In spite of this limitation, I was able to analyze the path models specified in each unique hypothesis. However, it is possible that I may have been able to obtain more robust results with a larger sample, and a greater number of clusters relative to the complexity of the model. Sample size was also a concern for the lab study (Study 3), as there were only 111 useable responses. Even though I was able to find several significant interactions, the low statistical power that results from a small sample size may have hindered my ability to find more significant relationships within my model. I recommend that scholars further test these relationships in the future using more robust samples.

A second limitation in this study is the source of the rater. Many of the focal variables included within the study (timeliness, offering solutions, responsibility, challenge and hindrance appraisals, LMX, and evaluations of effectiveness) were rated by the same individual at the same point in time. Same source raters can lead to common method bias, which is problematic because it can lead to measurement error, and subsequently, inaccurate conclusions regarding hypothesized relationships (Podsakoff, MacKenzie, & Podsakoff, 2003). For the lab study, some of the concern regarding common method bias was mitigated by manipulating the independent variable (sharing bad news) and moderators (timeliness, offering solutions, and responsibility) within the study. However, the field study is more problematic, and thus the results should be interpreted with caution. Future research could examine these relationships using a study

design that (1) collects data for mediators, moderators, and dependent variables at different points in time, and (2) utilizes different sources to evaluate the mediators, moderators, and dependent variable.

Related to the above point, a third potential limitation is rating source of evaluations of effectiveness. For both the field study and the lab study, evaluations of effectiveness were rated subjectively by the supervisor or leader. Although these scores are meaningful in that they reflect how the supervisor (or leader) feels about the employee's performance, it may be worthwhile to consider more objective measures of performance. Utilizing an objective measure of performance would help reduce concerns regarding common method bias, but could also provide contrast with a supervisor's personal evaluation of the employee.

Fourth, it is possible that the study design for the field, as well as the study design for the lab is not the most effective approach for capturing employees' sharing of bad news and leaders' subsequent responses. With regard to the field sample, survey items asked employees if they tended to engage in sharing bad news behavior, not whether or not they had shared bad news following a specific incident. Similarly, supervisors were asked to appraise employee sharing of information as challenging or hindering in general. Supervisors were also asked if employees tended to be timely in sharing news, whether they regularly offered solutions, and if they usually took responsibility when sharing critical information. As with the employee survey, supervisors are rating employees' behavior on average, but are not reporting how they may respond to an employee sharing a specific bad news event. One approach that may better capture the sharing of bad news and supervisor responses is an experienced sample modeling (ESM) study design.

Employing an ESM design would allow employees to be asked about their sharing bad news behavior on a daily basis, and would provide opportunities to examine specific instances in which bad news is shared. Leaders' could correspondingly be asked how they responded to news shared by the employee. An ESM study design may better capture the sharing of bad news as it occurs within the workplace.

With regard to the lab study, it is possible that the nature of the simulation was not completely effective in capturing the variables of interest. For example, it may be difficult for team leaders to develop LMX in the true sense of the construct in a single hour of working together. Further, it is possible that the extreme nature of the firefighting context itself influenced how leaders perceived the sharing of bad news by employees. Additionally, the lab study required the use of three separate confederates, and it is possible that using three different individuals in this role had an influence on the results. To mitigate this possible concern, I controlled for the effect of the confederate in the analysis. However, future research may consider an alternative simulation, or employ a study design with a single individual in the confederate role.

Finally, a fifth limitation that applies specifically to the field study is the organizational context. Although bad news events are likely to occur in any work environment, it is possible that some work environments may be more prone to mistakes or errors. That is, it is possible that the potential for critical mistakes or errors is higher in some organizations than in others. Further, it is possible that the nature of small mistakes or slips in some organizations could have more severe consequences, and thus, supervisor responses toward messengers may be more extreme when news of these mistakes is shared. For instance, a minor error at a hospital could lead to harm or loss of life whereas

a minor mishap in a call center is likely less life-threatening. A supervisor at a hospital may respond more negatively to an employee who shares bad news than does a supervisor at a call center. Future research should consider replicating the findings of these studies in a variety of different organizational settings.

Practical implications. In addition to the theoretical contributions of my work, my study also has practical implications for managers and employees. First, sharing bad news can be perceived as a risky behavior for employees, even though the information they share is often highly critical to the functioning of the work unit or organization. Supervisors can work to mitigate factors that might impede employees from sharing bad news. This may, in part, include training for supervisors regarding how bad news should be addressed and how to help employees take ownership for implementing solutions to the issues raised. Second, results of the study suggest that sharing bad news is likely to influence LMX and evaluations of effectiveness through a hindrance pathway. Given the potential for negative outcomes for employees through this pathway, employees could be trained on best practices for sharing bad news. For example, employees could be encouraged to limit the number of solutions they provide to a supervisor, but could also be encouraged to take responsibility when they are at fault for the bad news event they are sharing. These approaches may help organizations maximize the benefits of employees' sharing of bad news without inadvertently punishing them for the behavior.

Conclusion. This dissertation had two primary purposes. First, I intended to explore the concept of sharing bad news, and to this end, I offer a definition and a scale of sharing bad news that captures employees' sharing of mistakes and errors with a supervisor within a workplace setting. Second, I sought to understand why and under

what conditions supervisors respond either positively or negatively when employees share bad news. In other words, I explored the possibility that messengers may be rewarded, or alternatively “shot,” for sharing bad news with their leader or supervisor. Though not all of the hypothesized relationships were supported, my dissertation provides some evidence to explain the mechanism that transmits the effects of sharing bad news to LMX and ultimately employee evaluations of effectiveness. Specifically, sharing bad news was shown to have an effect on hindrance appraisals, but only in the presence of the moderating factors of timeliness or offering solutions. Further, the degree to which one is responsible for the bad news influenced the relationship between hindrance appraisals and LMX. These linkages offer a first step in understanding how and why sharing bad news influences evaluations of employee effectiveness. In sum, this study opens the door for scholars to continue to explore the consequences of sharing bad news at work, or stated differently, explore the conditions under which we may, or may not, shoot the messenger.

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Table 1

Means, Standard Deviations, and Correlations (Study 1, Scale Development)

Variable	M	SD	1	2	3	4	5
1. Sharing Bad News	4.01	.66	(.94)				
2. Promotive Voice	3.75	.83	.52**	(.93)			
3. Prohibitive Voice	3.63	.77	.42**	.66**	(.86)		
4. Whistle-blowing	3.16	.72	.02	.47**	.41**	(.67)	
5. Issue Selling	3.34	.93	.25**	.70**	.51**	.58**	(.96)

Note. $N = 221$. M = Mean, SD = Standard deviation. Reliabilities of each variable are reported along the diagonal.

* $p < .10$, ** $p < .05$

Table 2

Results of CFA for Sharing Bad News Discriminant Validity (Study 1, Scale Development)

Models	χ^2	<i>df</i>	RMSEA	CFI	TLI	SRMR	$\Delta\chi^2$	Δdf
1. 5-Factor Model	1312.37**	682	.07	.91	.90	.07		
2. 4-Factor Model Sharing Bad News and Promotive Voice combined	2064.47**	686	.10	.79	.78	.14	752.09**	4
3. 4-Factor Model Sharing Bad News and Prohibitive Voice combined	1629.85**	686	.08	.86	.85	.12	317.49**	4
4. 4-Factor Model Sharing Bad News and Whistle-blowing combined	1530.49**	686	.08	.87	.86	.12	218.11**	4
5. 4-Factor Model Sharing Bad News and Issue Selling combined	2368.59**	686	.11	.75	.73	.19	1056.22**	4
6. 1-Factor Model	3172.17**	692	.13	.63	.60	.16	1858.80**	10

Note. * $p < .10$, ** $p < .05$

Table 3

Comparison of Shared Variance and AVE (Study 1, Scale Development)

	r	r ²	AVE SHARING BAD NEWS
Sharing Bad News and Promotive Voice	.56	.31	.53
Sharing Bad News and Prohibitive Voice	.48	.23	.53
Sharing Bad News and Whistle-blowing	.34	.12	.53
Sharing Bad News and Issue Selling	.26	.07	.53

Note. AVE = Average variance extracted.

Table 4

Evaluation of model fit (Study 2, Field)

Models	χ^2	df	RMSEA	CFI	TLI	SRMR	$\Delta\chi^2$	Δdf
1. 4-Factor Model	556.17**	189	.10	.87	.85	.07		
2. 3-Factor Model Challenge and Hindrance Appraisal combined	870.06**	210	.13	.78	.76	.11	313.89**	21
3. 3-Factor Model Challenge and Hindrance Appraisal combined Leader-Member Exchange and Evaluations of Effectiveness combined	802.57**	209	.12	.80	.78	.08	246.40**	20
4. 1-Factor Model	1500.31**	212	.17	.57	.54	.30	944.14**	23

Note. * $p < .10$, ** $p < .05$

Table 5

Means, Standard Deviations, and Correlations (Study 2, Field)

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Sharing Bad News	4.26	.66	(.93)								
2. Timeliness	3.51	1.00	.00	-							
3. Offering solutions	3.52	.88	.09	.46**	-						
4. Challenge Appraisal	3.77	.80	.14**	.38**	.67**	(.86)					
5. Hindrance Appraisal	2.36	.91	-.07	-.58**	-.12	-.26**	(.66)				
6. Responsibility	3.80	.83	.13	.52**	.64**	.66**	-.30**	-			
7. Leader-Member Exchange	4.37	.67	.10	.32**	.34**	.41**	-.33**	.42**	(.83)		
8. Evaluations of Employee Effectiveness	3.68	.93	.15**	.38**	.69**	.79**	-.20**	.68**	.40**	-	
9. Prior Evaluations of Employee Effectiveness	3.75	.96	.13	.34**	.72**	.72**	-.11	.65**	.43**	.80**	-

Note. $N = 201$. M = Mean, SD = Standard deviation. Reliabilities of each variable are reported along the diagonal.

* $p < .10$, ** $p < .05$.

Table 6

Indirect Effects of Sharing Bad News (Study 2, Field)

Mechanism	Leader-Member Exchange			Dependent Variable Evaluations of Employee Effectiveness		
	Indirect Effect	SE	95%CI	Indirect Effect	SE	95%CI
Hypothesis 4: Sharing Bad News via LMX				.002	.002	-.002, .01
Hypothesis 7a and 7b: Sharing Bad News via Challenge Appraisal	-.00	.01	-.01, .01			
Sharing Bad News via Hindrance Appraisal	-.01	.01	-.03, .02			

Note. *SE* = Standard error, *CI* = Confidence interval. Reported indirect effects are unstandardized indirect effects. Confidence intervals have been bootstrapped (5,000 iterations) to correct for bias.

Table 7

Maximum Likelihood Estimation Results for Hypotheses 8a and 8b (Study 2, Field)

Variables	Dependent Variable			
	Challenge Appraisal Model 1	Model 2	Hindrance Appraisal Model 3	Model 4
	<i>B(SE)</i>	<i>B(SE)</i>	<i>B(SE)</i>	<i>B(SE)</i>
Intercept		3.77		2.34
Controls				
Prior Performance	.67**(.06)	.62**(.10)	-.20*(.12)	-.11(.08)
Independent Variables				
Sharing Bad News	-.01(.05)	.01(.05)	.02(.04)	.00(.03)
Timeliness		.12(.07)		-.26**(.13)
Sharing Bad News x Timeliness		.17(.11)		.06(.14)
R ²	.54**(.09)	.41**(.06)	.11(.09)	.06(.04)

Note. *SE* = Standard error. The values reported for R² indicate the proportion of variance in the dependent variable accounted for by the predictors included in the model.

* $p < .10$; ** $p < .05$

Table 8

Maximum Likelihood Estimation Results for Hypothesis 9a and 9b (Study 2, Field)

Variables	Dependent Variable			
	Challenge Appraisal Model 1	Model 2	Hindrance Appraisal Model 3	Model 4
	<i>B(SE)</i>	<i>B(SE)</i>	<i>B(SE)</i>	<i>B(SE)</i>
Intercept		3.76		2.34
Controls				
Prior Performance	.67**(.06)	.49**(.09)	-.20*(.12)	-.11(.10)
Independent Variables				
Sharing Bad News	-.01(.05)	-.01(.05)	.02(.04)	.02(.04)
Offering Solutions		.27**(.08)		-.15*(.09)
Sharing Bad News x Offering Solutions		.18**(.06)		.00(.13)
R ²	.54**(.09)	.44**(.06)	.11(.09)	.04(.04)

Note. *SE* = Standard error. The values reported for R² indicate the proportion of variance in the dependent variable accounted for by the predictors included in the model.

* $p < .10$; ** $p < .05$

Table 9

Maximum Likelihood Estimation Results for Hypotheses 10a and 10b (Study 3, Lab)

Variables	Leader-Member Exchange			
	Model 1 <i>B(SE)</i>	Model 2 <i>B(SE)</i>	Model 3 <i>B(SE)</i>	Model 4 <i>B(SE)</i>
Intercept		.00		.00
Controls				
Prior Performance	.04(.04)	.01(.02)	.05*(.03)	.16**(.07)
Independent Variables				
Challenge Appraisal	.12*(.07)	.11(.08)		
Hindrance Appraisal			-.34**(.15)	-.44**(.14)
Responsibility		.03(.07)		-.07(.11)
Challenge Appraisal x Responsibility		-.06(.07)		
Hindrance Appraisal x Responsibility				.07(.20)
R ²	.11*(.06)	.55**(.09)	.29(.20)	.10(.09)

Note. *SE* = Standard error. The values reported for R² indicate the proportion of variance in the dependent variable accounted for by the predictors included in the model.

* $p < .10$; ** $p < .05$

Table 10

Moderated Mediation of Sharing Bad News with Offering Solutions (Study 2, Field)

Mechanism	Dependent Variable					
	Leader-Member Exchange			Evaluations of Employee Effectiveness		
	Indirect Effect	SE	95%CI	Indirect Effect	SE	95%CI
Sharing Bad News via Challenge Appraisal	-.00	.01	-.01, .01	-.003	.02	-.05, .04
High Levels of Offering Solutions	.03	.02	-.01, .06	.12	.06	.01, .23
Low Levels of Offering Solutions	-.03	.02	-.06, .00	-.13	.07	-.25, .00
Difference	.05	.03	-.01, .12	.24	.10	.05, .44
Sharing Bad News via Challenge Appraisal and LMX				.00	.001	-.00, .00
High Levels of Offering Solutions				.02	.02	-.01, .05
Low Levels of Offering Solutions				-.02	.01	-.05, .00
Difference				.04	.03	-.01, .09

Note. *SE* = Standard error, *CI* = Confidence interval. Reported indirect effects are unstandardized indirect effects. Confidence intervals have been bootstrapped (20,000 iterations) to correct for bias.

Table 11

List of Conditions (Study 3)

Condition	Severity	Timeliness	Offering Solutions	Responsibility
1	Severe	Timely	Solution	Responsible
2	Severe	Timely	No solution	Responsible
3	Severe	Timely	Solution	Not responsible
4	Severe	Timely	No solution	Not responsible
5	Severe	Untimely	Solution	Responsible
6	Severe	Untimely	No solution	Responsible
7	Severe	Untimely	Solution	Not responsible
8	Severe	Untimely	No solution	Not responsible
9	Not severe	Timely	Solution	Responsible
10	Not severe	Timely	No solution	Responsible
11	Not severe	Timely	Solution	Not responsible
12	Not severe	Timely	No solution	Not responsible
13	Not severe	Untimely	Solution	Responsible
14	Not severe	Untimely	No solution	Responsible
15	Not severe	Untimely	Solution	Not responsible
16	Not severe	Untimely	No solution	Not responsible

Table 12

Results of Manipulation Check (Study 3, Lab)

Condition t-test	Manipulation Sample confederate statement Mean(SD)	
Severity $t(96) = -2.87, p < .01$	SEVERE: “I have really bad news. We won’t have enough water to put out the fires.” 3.30(1.14)	MILD: “Hey. We might have an issue with our water supply.” 2.56(1.39)
Timeliness $t(108) = -1.77, p < .10$	TIMELY: “I just realized. . .” 2.92(1.22)	UNTIMELY: “I should have said something earlier, but I noticed when we started. . .” 2.54(1.04)
Offering Solutions $t(109) = -4.28, p < .01$	SOLUTION: “I have a solution...” 3.96(.99)	NO SOLUTION: 3.05(1.20)
Responsibility for Bad News $t(109) = -2.44, p < .01$	RESPONSIBLE: “This is completely my fault. I should have read my instructions.” 2.94(1.17)	NOT RESPONSIBLE: “This is not my fault. It wasn’t in my instructions.” 2.39(1.16)

Table 13

Evaluation of model fit (Study 3, Lab)

Models	χ^2	<i>df</i>	RMSEA	CFI	TLI	SRMR	$\Delta\chi^2$	Δdf
1. 4-Factor Model	162.26	113	.06	.94	.93	.07		
2. 3-Factor Model Challenge and Hindrance Appraisal combined	299.73**	116	.12	.78	.74	.11	137.47**	3
3. 2-Factor Model Challenge and Hindrance Appraisal combined Leader-Member Exchange and Evaluations of Effectiveness combined	375.79**	118	.14	.69	.64	.13	213.54**	5
4. 1-Factor Model	711.57	129	.20	.30	.27	.25	549.31**	16

Note. * $p < .10$, ** $p < .05$

Table 14

Means, Standard Deviations, and Correlations (Study 3, Lab)

Variable	M	SD	1	2	3	4	5	6
1. Sharing Bad News	-	-	-					
2. Timeliness	-	-	-.10	-				
3. Offering Solutions	-	-	.13	.06	-			
4. Challenge Appraisal	3.98	.78	-.04	.13	.22**	(.89)		
5. Hindrance Appraisal	2.79	.98	-.07	-.10	.02	-.10	(.83)	
6. Responsibility	-	-	.04	-.14	-.05	-.08	.22**	-
7. Leader-Member Exchange	3.73	.65	.07	-.01	-.09	.40**	-.05	-.10
8. Evaluations of Employee Effectiveness	3.72	.59	-.07	-.02	.08	.45**	-.21**	-.06
9. Psychological Safety	3.73	.61	-.03	.13	-.03	.09	-.26**	-.11
10. Goal Commitment	4.23	.63	-.03	-.05	-.16*	.40**	-.18*	-.12

Note. $N = 111$. M = Mean, SD = Standard deviation. Reliabilities of each variable are reported along the diagonal.

* $p < .10$, ** $p < .05$

Table 14, continued

Variable	7	8	9	10
7. Leader-Member Exchange	(.87)			
8. Evaluations of Employee Effectiveness	.41**	(.73)		
9. Psychological Safety	.33**	.32**	(.63)	
10. Goal Commitment	.45**	.32**	.33**	(.89)

Note. $N = 111$. M = Mean, SD = Standard deviation. Reliabilities of each variable are reported along the diagonal.

* $p < .10$, ** $p < .05$

Table 15

Indirect Effects of Sharing Bad News (Study 3, Lab)

Mechanism	Leader-Member Exchange			Dependent Variable Evaluations of Employee Effectiveness		
	Indirect Effect	SE	95%CI	Indirect Effect	SE	95%CI
Hypothesis 4: Sharing Bad News via LMX				.03	.04	-.04, .10
Hypothesis 7a and 7b: Sharing Bad News via Challenge Appraisal	-.00	.04	-.07, .07			
Sharing Bad News via Hindrance Appraisal	-.01	.02	-.04, .03			

Note. *SE* = Standard error, *CI* = Confidence interval. Reported indirect effects are unstandardized indirect effects. Confidence intervals have been bootstrapped (5,000 iterations) to correct for bias.

Table 16

Maximum Likelihood Estimation Results for Hypotheses 8a and 8b (Study 3, Lab)

Variables	Dependent Variable			
	Challenge Appraisal	Hindrance Appraisal		
	Model 1 <i>B(SE)</i>	Model 2 <i>B(SE)</i>	Model 3 <i>B(SE)</i>	Model 4 <i>B(SE)</i>
Intercept	3.98	3.97	2.79	2.75
Controls				
Psychological Safety	.21**(.09)	-.09(.15)	-.45**(.16)	-.43**(.16)
Goal Commitment	.39**(.11)	.53**(.13)	-.20(.14)	-.19(.14)
Confederate (1)	.02(.17)	.06(.16)	-.64**(.19)	-.65**(.19)
Confederate (2)	.26(.18)	.14(.19)	-.42(.28)	-.50*(.28)
Independent Variables				
Sharing Bad News	-.02(.15)	-.02(.14)	-.11(.17)	-.10 (.17)
Timeliness		.22(.14)		-.08(.20)
Sharing Bad News x Timeliness		-.35(.30)		-.65*(.38)

Note. *SE* = Standard error.* $p < .10$; ** $p < .05$

Table 17

Maximum Likelihood Estimation Results for Hypotheses 9a and 9b (Study 3, Lab)

Variables	Dependent Variable			
	Challenge Appraisal	Hindrance Appraisal		
	Model 1 <i>B(SE)</i>	Model 2 <i>B(SE)</i>	Model 3 <i>B(SE)</i>	Model 4 <i>B(SE)</i>
Intercept	3.98	3.98	2.79	2.75
Controls				
Psychological Safety	.21**(.09)	-.06(.13)	-.45**(.16)	-.43**(.16)
Goal Commitment	.39**(.11)	.57**(.12)	-.20(.14)	-.19(.14)
Confederate (1)	.02(.17)	.05(.16)	-.64**(.19)	-.65**(.19)
Confederate (2)	.26(.18)	.20(.18)	-.42(.28)	-.50*(.28)
Independent Variables				
Sharing Bad News	-.02(.15)	-.09(.14)	-.11(.17)	-.10(.18)
Offering Solutions		.46**(.13)		-.06(.20)
Sharing Bad News x Offering Solutions		-.07(.29)		.73*(.40)

Note. *SE* = Standard error.* $p < .10$; ** $p < .05$

Table 18

Maximum Likelihood Estimation Results for Hypotheses 10a and 10b (Study 3, Lab)

Variables	Leader-Member Exchange			
	Model 1 <i>B(SE)</i>	Model 2 <i>B(SE)</i>	Model 3 <i>B(SE)</i>	Model 4 <i>B(SE)</i>
Intercept	.00	.00	.00	.00
Controls				
Psychological Safety	.22**(.10)	.22**(.10)	.23**(.09)	.23**(.09)
Goal Commitment	.27**(.11)	.27**(.11)	.40**(.11)	.37**(.10)
Confederate (1)	-.07(.11)	-.08(.11)	-.02(.11)	-.06(.12)
Confederate (2)	-.16(.19)	-.17(.20)	-.08(.20)	-.07(.19)
Independent Variables				
Challenge Appraisal	.23**(.06)	.23**(.07)		
Hindrance Appraisal			.05(.06)	.07(.06)
Responsibility		-.05(.11)		-.11(.10)
Challenge Appraisal x Responsibility		.00(.14)		
Hindrance Appraisal x Responsibility				.25**(.12)

Note. *SE* = Standard error.* $p < .10$; ** $p < .05$

Table 19

Moderated Mediation of Sharing Bad News with Timeliness (Study 3, Lab)

Mechanism	Dependent Variable					
	Leader-Member Exchange			Evaluations of Employee Effectiveness		
	Indirect Effect	SE	95%CI	Indirect Effect	SE	95%CI
Sharing Bad News via Hindrance Appraisal	-.01	.02	-.04, .03	.01	.02	-.03, .04
High Levels of Timeliness	-.04	.06	-.16, .07	-.22	.13	-.47, .03
Low Levels of Timeliness	-.01	.02	-.04, .03	-.03	.06	-.14, .08
Difference	-.03	.05	-.14, .07	-.19	.12	-.42, .04
Sharing Bad News via Hindrance Appraisal and LMX				-.002	.005	-.01, .01
High Levels of Timeliness				-.01	.02	-.04, .02
Low Levels of Timeliness				-.00	.01	-.01, .01
Difference				-.01	.01	-.04, .02

Note. *SE* = Standard error, *CI* = Confidence interval. Reported indirect effects are unstandardized indirect effects. Confidence intervals have been bootstrapped (5,000 iterations) to correct for bias.

Table 20

Moderated Mediation of Sharing Bad News with Offering Solutions (Study 3, Lab)

Mechanism	Dependent Variable					
	Leader-Member Exchange			Evaluations of Employee Effectiveness		
	Indirect Effect	SE	95%CI	Indirect Effect	SE	95%CI
Sharing Bad News via Hindrance Appraisal	-.01	.02	-.04, .03	.01	.02	-.03, .04
High Levels of Offering Solutions	.03	.05	-.07, .12	.18	.13	-.07, .39
Low Levels of Offering Solutions	-.01	.02	-.04, .02	-.03	.06	-.14, .06
Difference	.04	.06	-.07, .13	.21	.12	-.03, .40
Sharing Bad News via Hindrance Appraisal and LMX				-.002	.005	-.01, .01
High Levels of Offering Solutions				.01	.02	-.02, .03
Low Levels of Offering Solutions				-.00	.00	-.01, .01
Difference				.01	.02	-.02, .04

Note. *SE* = Standard error, *CI* = Confidence interval. Reported indirect effects are unstandardized indirect effects. Confidence intervals have been bootstrapped (5,000 iterations) to correct for bias.

Table 21

Moderated Mediation of Hindrance Appraisal with Responsibility (Study 3, Lab)

Mechanism	Evaluations of Employee Effectiveness		
	Indirect Effect	SE	90% CI
Hindrance Appraisal	.02	.02	-.01, .06
via Leader-Member Exchange			
High Levels of Responsibility	.10	.05	-.00, .20
Low Levels of Responsibility	.02	.02	-.01, .06
Difference	.08	.05	-.01, .17
Sharing Bad News	-.002	.005	-.01, .01
via Hindrance Appraisal and LMX			
High Levels of Responsibility	-.01	.02	-.05, .03
Low Levels of Responsibility	-.00	.01	-.01, .01
Difference	-.01	.02	-.04, .02

Note. *SE* = Standard error, *CI* = Confidence interval. Reported indirect effects are unstandardized indirect effects. Confidence intervals have been bootstrapped (5,000 iterations) to correct for bias.

Figure 1

Conceptual Model of Sharing Bad News

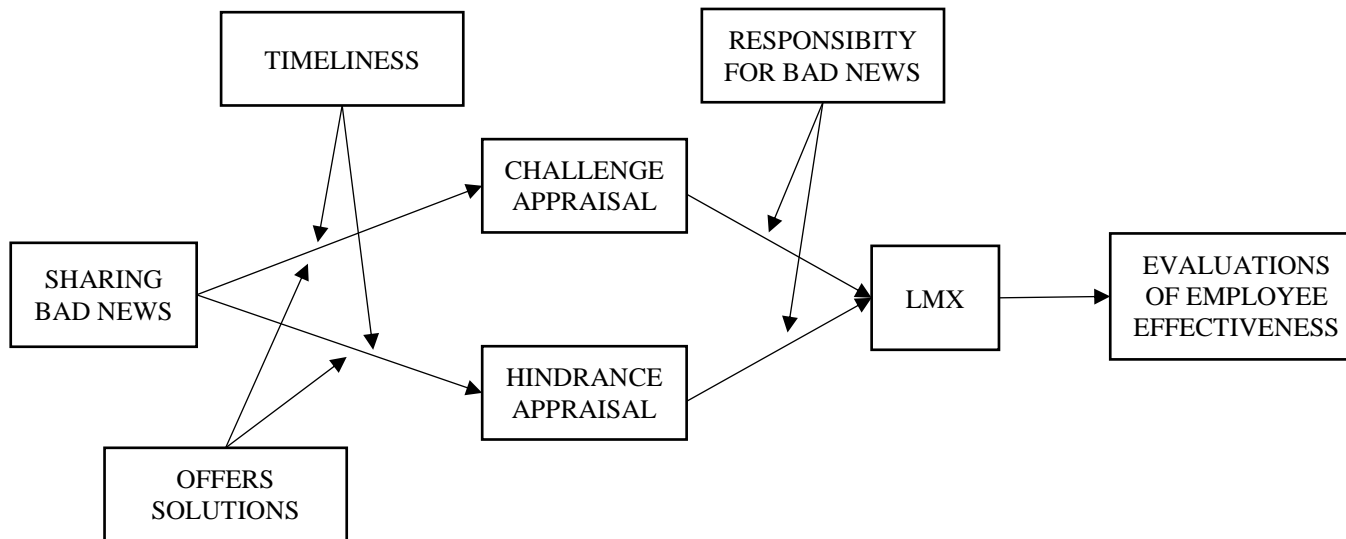
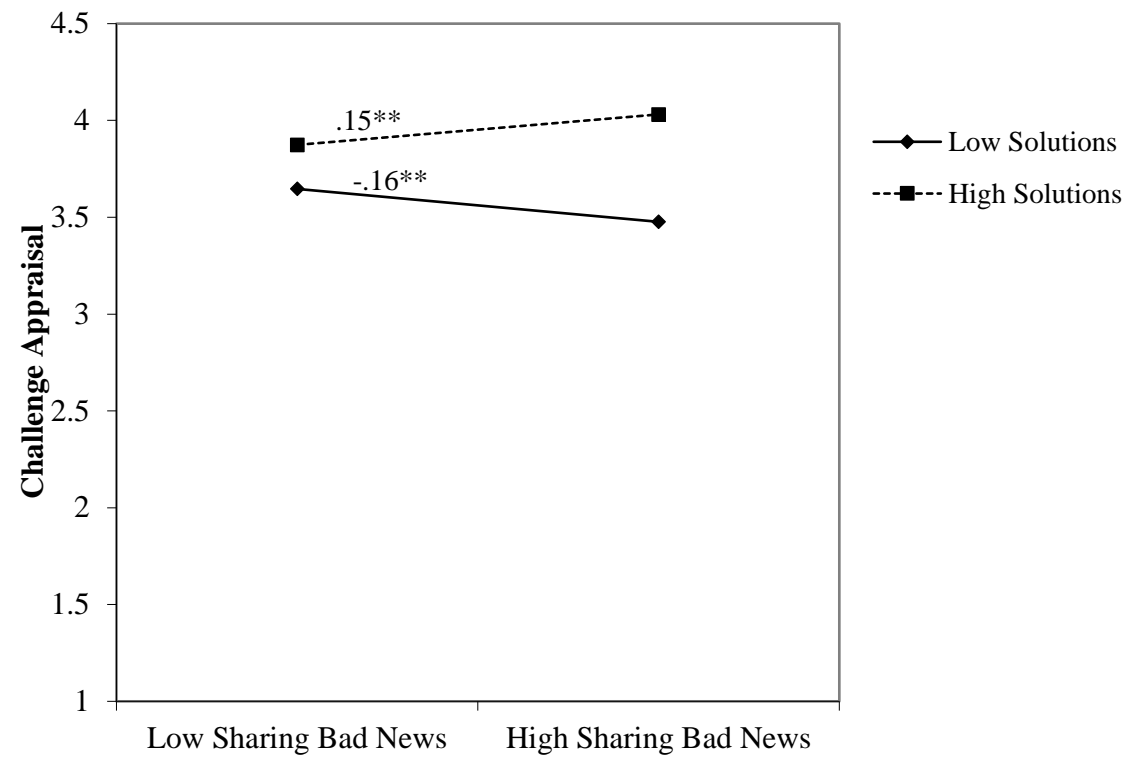


Figure 2

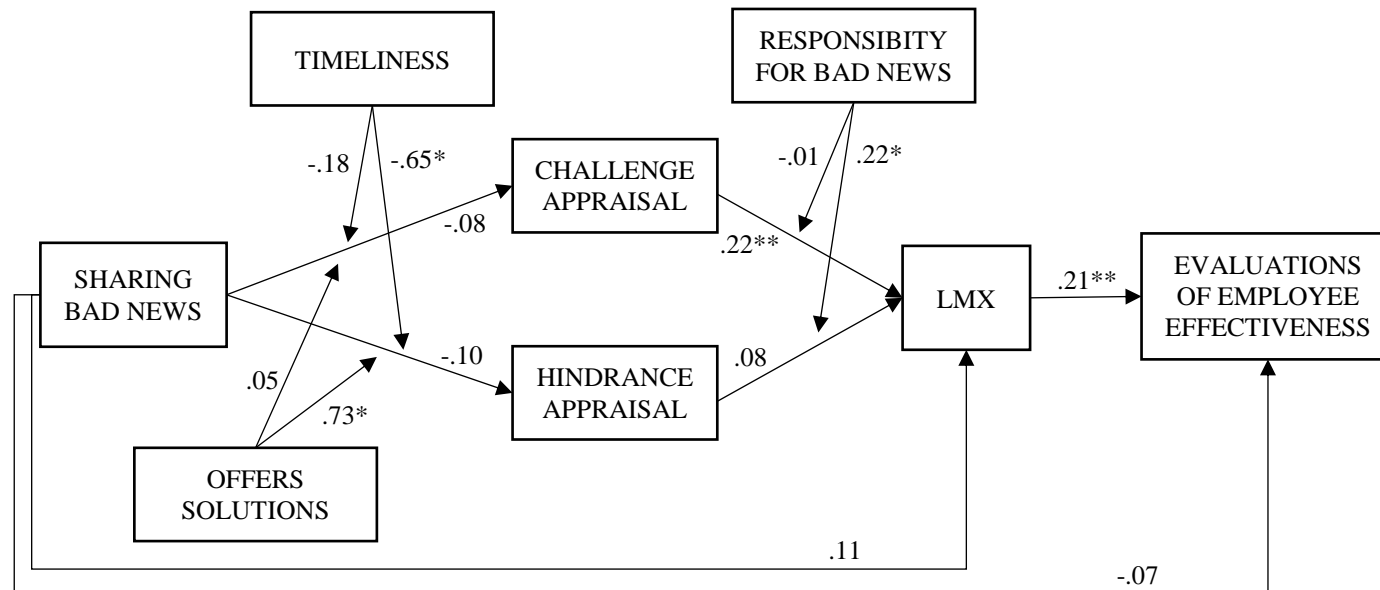
Sharing Bad News x Offering Solutions on Challenge Appraisal (Study 2, Field)



Note. * $p < .10$, ** $p < .05$

Figure 3

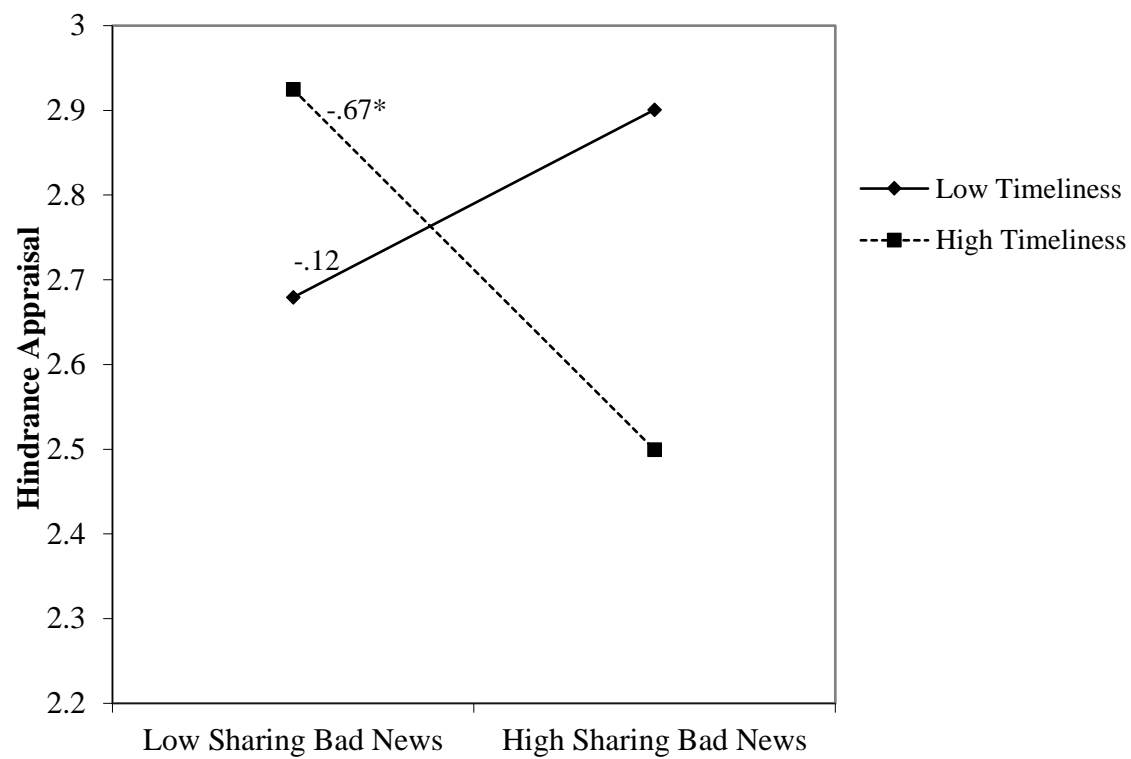
Summary of Hypotheses (Study 3, Lab)



Note. * $p < .10$; ** $p < .05$

Figure 4

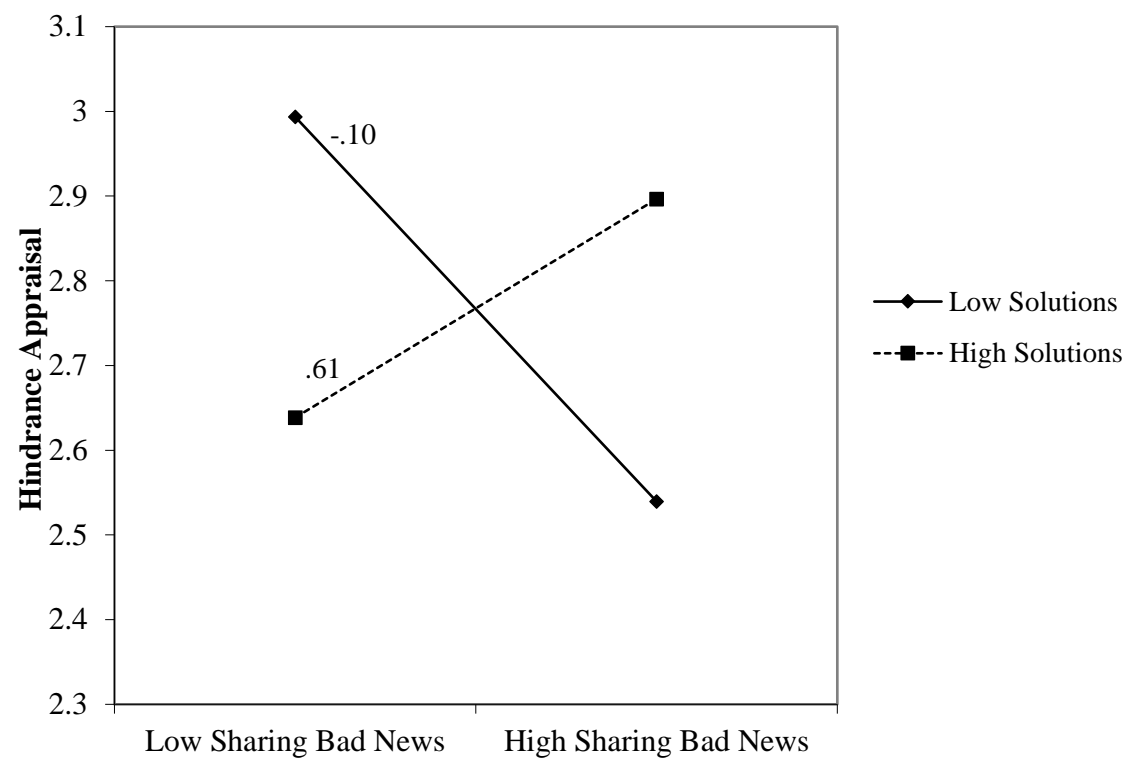
Sharing Bad News x Timeliness on Hindrance Appraisal (Study 3, Lab)



Note. * $p < .10$, ** $p < .05$

Figure 5

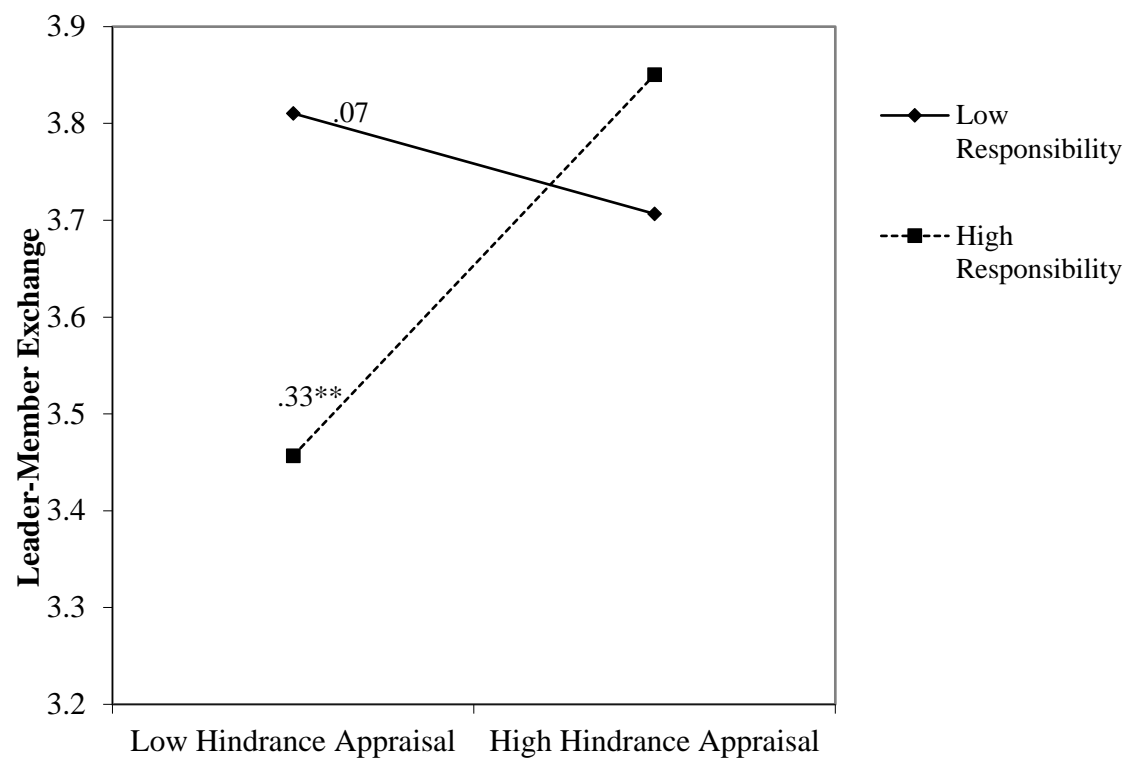
Sharing Bad News x Offering Solutions on Hindrance Appraisal (Study 3, Lab)



Note. * $p < .10$, ** $p < .05$

Figure 6

Hindrance Appraisal x Responsibility on Leader-Member Exchange (Study 3, Lab)



Note. * $p < .10$, ** $p < .05$

APPENDIX A

IRB APPROVAL FORMS FOR SCALE DEVELOPMENT (STUDY 1)



EXEMPTION GRANTED

Jeffery LePine
Management
480/965-8652
Jeff.LePine@asu.edu

Dear Jeffery LePine:

On 2/3/2016 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	A Measure of Sharing Bad News
Investigator:	Jeffery LePine
IRB ID:	STUDY00003825
Funding:	Name: Management
Grant Title:	
Grant ID:	
Documents Reviewed:	<ul style="list-style-type: none">• Bad News Scale Protocol, Category: IRB Protocol;• Recruitment script, Category: Recruitment Materials;• Scale survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Consent form, Category: Consent Form;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 2/3/2016.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator
cc: Melissa Chamberlin
Melissa Chamberlin



EXEMPTION GRANTED

Jeffery LePine
Management
480/965-8652
Jeff.LePine@asu.edu

Dear Jeffery LePine:

On 1/20/2017 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Scale Validation of Sharing Bad News Measure
Investigator:	Jeffery LePine
IRB ID:	STUDY00005572
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none">• Recruitment Script, Category: Recruitment Materials;• Survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Leader survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Protocol, Category: IRB Protocol;• Consent form, Category: Consent Form;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 1/20/2017.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator
cc: Melissa Chamberlin
Melissa Chamberlin

APPENDIX B

IRB APPROVAL FORM FOR FIELD STUDY (STUDY 2)



APPROVAL: EXPEDITED REVIEW

Jeffery LePine
Management
480/965-8652
Jeff.LePine@asu.edu

Dear Jeffery LePine:

On 9/30/2017 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Communication between employees and supervisors
Investigator:	Jeffery LePine
IRB ID:	STUDY00005043
Category of review:	(7)(b) Social science methods, (7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none">• Supervisor survey, part 2, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Supervisor consent form, Category: Consent Form;• Employee consent form, Category: Consent Form;• Employee survey, part 2, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Employee survey, part 1, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Recruitment Script, Category: Recruitment Materials;• Protocol, Category: IRB Protocol;• Consent from organization, Category: Other (to reflect anything not captured above);• Supervisor survey, part 1, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB approved the protocol from 9/30/2016 to 9/29/2017 inclusive. Three weeks before 9/29/2017 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 9/29/2017 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the “Documents” tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Melissa Chamberlin
 Melissa Chamberlin

APPENDIX C

IRB APPROVAL FORMS FOR LAB STUDY (STUDY 3)



APPROVAL: EXPEDITED REVIEW

Jeffery LePine
Management
480/965-8652
Jeff.LePine@asu.edu

Dear Jeffery LePine:

On 8/26/2016 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Team Leader Responses to Sharing Bad News
Investigator:	Jeffery LePine
IRB ID:	STUDY00004581
Category of review:	(7)(b) Social science methods, (7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none">• Consent form, Category: Consent Form;• Survey items, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Protocol, Category: IRB Protocol;• Recruitment Script, Category: Recruitment Materials;• Debrief consent form, Category: Consent Form;• Sample confederate protocol, Category: Participant materials (specific directions for them);

The IRB approved the protocol from 8/26/2016 to 8/25/2017 inclusive. Three weeks before 8/25/2017 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 8/25/2017 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the “Documents” tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Melissa Chamberlin
Melissa Chamberlin



APPROVAL: EXPEDITED REVIEW

Jeffery LePine
Management
480/965-8652
Jeff.LePine@asu.edu

Dear Jeffery LePine:

On 1/26/2017 the ASU IRB reviewed the following protocol:

Type of Review:	Modification
Title:	Team Leader Responses to Sharing Bad News
Investigator:	Jeffery LePine
IRB ID:	STUDY00004581
Category of review:	(mm) Minor modification
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none">• Sample confederate protocol, Category: Participant materials (specific directions for them);• Consent form, Category: Consent Form;• Survey items, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Debrief consent form, Category: Consent Form;• Protocol, Category: IRB Protocol;• Message to part participants, Category: Other (to reflect anything not captured above);• Recruitment Script, Category: Recruitment Materials;

The IRB approved the protocol from 8/26/2016 to 8/25/2017 inclusive. Three weeks before 8/25/2017 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 8/25/2017 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the “Documents” tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Melissa Chamberlin
Melissa Chamberlin

APPENDIX D

SUBSTANTIVE VALIDITY (STUDY 1, SCALE DEVELOPMENT)

Sharing bad news. Original set of items developed for this study.

1. I advise my supervisor of serious work-related errors that s/he might not know about.
2. If my supervisor is not aware of a critical error at work, I make sure s/he knows.
3. I have no problem sharing bad news with my supervisor.
4. If a non-trivial mistake is made at work, I'm the one who usually tells the supervisor.
5. I alert my supervisor when s/he is not aware of an important mistake that needs her/his attention.
6. I let my supervisor know when I have made a critical error that could negatively affect work tasks or effectiveness, even if that error may not be noticed right away.
7. I notify my supervisor when my work team/unit has made a meaningful error that could negatively affect work tasks or effectiveness, even if that error may not be noticed right away.
8. I inform my supervisor about significant work-related mistakes that are not immediately obvious.
9. I make my supervisor aware of important errors, even though the errors might not be detected for a while.
10. I communicate bad news regarding work tasks or outcomes to the supervisor.
11. I apprise my supervisor when a crucial event occurs that could negatively affect work tasks.
12. If an unexpected deviation in our plan of work occurs such that work tasks will be negatively impacted, I alert my supervisor.
13. I brief my supervisor on important events at work that interrupt work tasks and may negatively influence work outcomes.
14. When there is bad news regarding work tasks or outcomes, I tell the supervisor.
15. I avoid telling my supervisor bad news. (R)
16. If an important mistake is made at work, I let someone else tell the supervisor. (R)

Additional constructs examined in item-sort task

Promotive and prohibitive voice. Liang, J., Farh, C. I., & Farh, J.-L. (2012).

Psychological antecedents of promotive and prohibitive voice: A two-wave examination. *Academy of Management Journal*, 55(1), 71-92.

Promotive voice

1. Proactively develop and make suggestions for issues that may benefit the work unit.
2. Proactively suggest new projects which are beneficial to the work unit.
3. Raise suggestions to improve the unit's working procedure.
4. Proactively voice out constructive suggestions that help the unit reach its goals.
5. Make constructive suggestions to improve the unit's operation.

Prohibitive voice

1. Advise other colleagues against undesirable behaviors that would hamper job performance.
2. Speak up honestly with problems that might cause serious loss to the work unit, even when/though dissenting opinions exist.
3. Dare to voice out opinions on things that might affect efficiency in the work unit, even if that would embarrass others.
4. Dare to point out problems when they appear in the unit, even if that would hamper relationships with other colleagues.
5. Proactively report coordination problems in the workplace to management.

Whistle-blowing. Rusbult, C. E., Farrell, D., Rogers, G., & Mainous, A. G. (1988). Impact of exchange variables on exit, voice, loyalty, and neglect: An integrative model of responses to declining job-satisfaction. *Academy of Management Journal*, 31(3), 599-627.

1. When I think of an idea that will benefit my company I make a determined effort to implement it.
2. I have at least once contacted an outside agency (e.g., union) to get help in changing working conditions here.
3. I sometimes discuss problems at work with my employer.
4. When things are seriously wrong and the company won't act, I am willing to "blow the whistle."
5. I have made several attempts to change the working conditions here.

APPENDIX E

DISCRIMINANT VALIDITY (STUDY 1, SCALE DEVELOPMENT)

Sharing bad news. Final set of items following evaluation of substantive validity

1. I advise my supervisor of serious work-related errors that s/he might not know about.
2. If my supervisor is not aware of a critical error at work, I make sure s/he knows.
3. I have no problem sharing bad news with my supervisor.
4. If a non-trivial mistake is made at work, I'm the one who usually tells the supervisor.
5. I alert my supervisor when s/he is not aware of an important mistake that needs her/his attention.
6. I let my supervisor know when I have made a critical error that could negatively affect work tasks or effectiveness, even if that error may not be noticed right away.
7. I notify my supervisor when my work team/unit has made a meaningful error that could negatively affect work tasks or effectiveness, even if that error may not be noticed right away.
8. I inform my supervisor about significant work-related mistakes that are not immediately obvious.
9. I make my supervisor aware of important errors, even though the errors might not be detected for a while.
10. I communicate bad news regarding work tasks or outcomes to the supervisor.
11. I apprise my supervisor when a crucial event occurs that could negatively affect work tasks.
12. If an unexpected deviation in our plan of work occurs such that work tasks will be negatively impacted, I alert my supervisor.
13. I brief my supervisor on important events at work that interrupt work tasks and may negatively influence work outcomes.
14. When there is bad news regarding work tasks or outcomes, I tell the supervisor.
15. I avoid telling my supervisor bad news. (R)

Additional constructs examined for discriminant validity of sharing bad news

Promotive and prohibitive voice. Liang, J., Farh, C. I., & Farh, J.-L. (2012).

Psychological antecedents of promotive and prohibitive voice: A two-wave examination. *Academy of Management Journal*, 55(1), 71-92.

Promotive voice

1. Proactively develop and make suggestions for issues that may benefit the work unit.
2. Proactively suggest new projects which are beneficial to the work unit.
3. Raise suggestions to improve the unit's working procedure.
4. Proactively voice out constructive suggestions that help the unit reach its goals.
5. Make constructive suggestions to improve the unit's operation.

Prohibitive voice

1. Advise other colleagues against undesirable behaviors that would hamper job performance.
2. Speak up honestly with problems that might cause serious loss to the work unit, even when/though dissenting opinions exist.
3. Dare to voice out opinions on things that might affect efficiency in the work unit, even if that would embarrass others.
4. Dare to point out problems when they appear in the unit, even if that would hamper relationships with other colleagues.
5. Proactively report coordination problems in the workplace to management.

Whistle-blowing. Rusbult, C. E., Farrell, D., Rogers, G., & Mainous, A. G. (1988). Impact of exchange variables on exit, voice, loyalty, and neglect: An integrative model of responses to declining job-satisfaction. *Academy of Management Journal*, 31(3), 599-627.

1. When I think of an idea that will benefit my company I make a determined effort to implement it.
2. I have at least once contacted an outside agency (e.g., union) to get help in changing working conditions here.
3. I sometimes discuss problems at work with my employer.
4. When things are seriously wrong and the company won't act, I am willing to "blow the whistle."
5. I have made several attempts to change the working conditions here.

Issue selling. Ashford, S. J., Rothbard, N. P., Piderit, S. K., Dutton, J. E. (1998). Out on a limb: The role of context and impression management in selling gender-equity issues. *Administrative Science Quarterly*, 43(1), 23-57.

1. I have a positive track record for selling issues.
2. I have been successful in the past in selling issues to organizations.
3. I am known as a successful issue seller.
4. I am confident that I could sell this issue successfully in my work organization.
5. I believe that I could get the critical decision makers in my work organization to buy this issue.
6. I am confident that I could get the critical decision makers in my work organization to pay attention to this issue.
7. How much effort would you be willing to devote to selling this issue in your organization?
8. How much energy would you be willing to devote to selling this issue in your organization?
9. How much time would you be willing to devote to selling this issue in your organization?

APPENDIX F

LIST OF MEASURES FOR FIELD STUDY (STUDY 2)

Survey Items for Employee Survey

Sharing bad news. Developed in Study 1. Note: For this study, item number 15 (reverse-coded) was removed from the scale when it exhibited poor factor loading relative to the other items.

1. I advise my supervisor of serious work-related errors that s/he might not know about.
2. If my supervisor is not aware of a critical error at work, I make sure s/he knows.
3. I have no problem sharing bad news with my supervisor.
4. If a non-trivial mistake is made at work, I'm the one who usually tells the supervisor.
5. I alert my supervisor when s/he is not aware of an important mistake that needs her/his attention.
6. I let my supervisor know when I have made a critical error that could negatively affect work tasks or effectiveness, even if that error may not be noticed right away.
7. I notify my supervisor when my work team/unit has made a meaningful error that could negatively affect work tasks or effectiveness, even if that error may not be noticed right away.
8. I inform my supervisor about significant work-related mistakes that are not immediately obvious.
9. I make my supervisor aware of important errors, even though the errors might not be detected for a while.
10. I communicate bad news regarding work tasks or outcomes to the supervisor.
11. I apprise my supervisor when a crucial event occurs that could negatively affect work tasks.
12. If an unexpected deviation in our plan of work occurs such that work tasks will be negatively impacted, I alert my supervisor.
13. I brief my supervisor on important events at work that interrupt work tasks and may negatively influence work outcomes.
14. When there is bad news regarding work tasks or outcomes, I tell the supervisor.
15. I avoiding telling my supervisor bad news. (R)

Survey Items for Supervisor Survey

Trust propensity. MacDonald, A. P., Kessel, V. S., & Fuller, J. B. (1972). Self-disclosure and two kinds of trust. *Psychological Reports*, 30, 143-148.

1. I expect other people to be honest and open.
2. I have faith in human nature.
3. I feel that other people can be relied upon to do what they say they will do.
4. I believe in the promises or statements of other people.
5. I am more trusting than a lot of people.

Neuroticism. Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The mini-IPIP scales: Tiny-yet-effective measures of the big five factor of personality. *Psychological Assessment*, 18(2), 192-203.

1. I have frequent mood swings.
2. I get upset easily.
3. I often feel blue.
4. I get stressed out easily.
5. I worry about things.
6. I get irritated easily.
7. I grumble about things.

Overall performance. 1 item from: Motowidlo, S. J. & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, 79(4), 475-480.

1. This employee exceeds standards for overall job performance.

Challenge and hindrance appraisals. 2-items (each) adapted from: LePine, M. A., Zhang, Y., Crawford, E. R., & Rich, B. L. (2016). Turning their pain to gain: Charismatic leader influence on follower stress appraisal and job performance. *Academy of Management Journal*, 59(3), 1036-1059.

Challenge Appraisal

1. This employee shares information that helps me achieve the goals of our work group.
2. This employee communicates knowledge that assists me in improving the growth and well-being of our work group.

Hindrance Appraisal

1. This employee shares information that prevents me from achieving the goals of our work group.
2. This employee speaks to me about issues that hinder me in improving the growth and well-being of our work group.

Offering solutions. Developed for this study.

1. This employee includes a solution when s/he shares a work-related problem with me.

Timeliness. Developed for this study.

1. This employee waits too long to share information about slip-ups that occur on the job.

Perceived responsibility. 1-item adapted from: Morrison, E. W., & Phelps, C. C. (1999). Taking charge at work: Extrarole efforts to initiate workplace change. *Academy of Management Journal*, 42(4), 403-419.

1. This employee takes responsibility for correcting problems.

LMX. 2 items adapted from: Graen, G. B. & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, 6(2), 219-247.

1. I would let this individual know where I stand with him/her.
2. I would use my power to help this individual solve problems in his/her work.

Prior performance. 1 item from: Motowidlo, S. J. & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, 79(4), 475-480.

1. During the prior performance period, this employee exceeded standards for overall job performance.

APPENDIX G

SAMPLE INSTRUCTIONS FOR LAB STUDY PARTICIPANTS (STUDY 3)

Firefighting Simulation Instructions



Overview:

Your four-person team will be playing a computer-generated game in which a forest fire is burning. The game begins when your team receives an emergency alarm in the chat window that tells you that a fire has been spotted somewhere in the simulated world. During the game one or more fires will start. The initial alarm alerts you to only the first of those fires.

The team's goal is to control and extinguish the fire, as well as save as many houses, schools, and hospitals as possible in the process. Your task is to work as an efficient and effective team to accomplish these goals. The importance of these tasks are reflected in the scoring system below. Hospitals and schools result in the most points lost when they are burned down, followed by houses, water tanks, trees, and normal grass vegetation.

	Grass	Pine/Birch Tree	Water Tanks	House	School/Hospital
Points Deducted	0.25	1	5	25	50

The Simulation World:

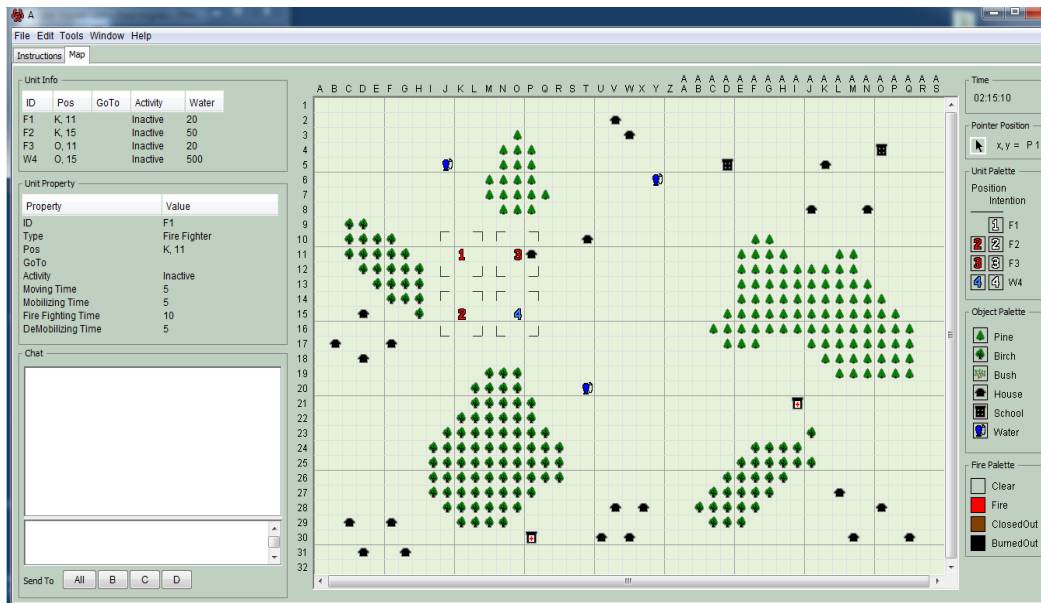
The figure below represents the firefighting simulation. At the top left, you can see your unit information (current position, where you are going, current activity, and amount of water you have).

Below that is the unit property information or the statistics of your unit. For example, a moving time of 5 indicates that it takes 5 seconds to move one cell, a fire fighting time of 10 indicates that it takes 10 seconds to put out a fire, and so on.

At the bottom left of your screen is the chat window, which is how you will exclusively interact with fellow team members. You may not communicate verbally, only via the chat window. In order to send a chat, type a message in the bottom window and click on the person you want to send it to.

On the right hand side of the screen, you can see the position of your mouse pointer, unit position information (red is your current position, white where you are moving to), and a palette explaining each icon.

At the very bottom of the right hand side of the screen, the simulation provides a colored code for each type of fire. Red means the fire is currently burning, brown represents fires that have been successfully put out, and black indicates that the fire has burnt out that cell.



Roles:

Each firefighting team has four members, each with unique and different roles. Each member of the team has the unique ability to see and do things that other members of the team cannot do or see.

You are the **FIRE CHIEF**. The Chief controls unit 1 in the map and can see the position of the fire as well as his/her fellow team members within the map. It is the **Chief's responsibility to coordinate the team's actions in order to effectively fight the fire**. Although the Chief can fight the fire, his/her firefighting abilities are relatively weak. In addition, the Chief is very slow in moving from point A to point B.

In addition to fighting fires, it is also important that you **ensure your team has a supply of water at all times**. **Running out of water** will prevent you from fighting fires, which will ultimately result in more areas getting burned and **reduce your team's chances of meeting your goal**.

Playing the Simulation:

In order to move your unit, simply click on your number and drag it to another cell. A white numbered icon should appear on that cell, telling you where your destination is. In order to change your destination before you arrive, simply click on the white number icon and drag it to another cell. Firefighting occurs automatically when your unit is in a red, burning cell. When that cell turns brown, the fire in that cell has been extinguished.

In addition, **firefighting units need water** to fight fires. You can only refill your water supply by receiving water from the Water Carrier. In order to refill water, you need to stand next to the Water Carrier unit for a certain amount of time. In addition, water cannot be refilled when you're simultaneously fighting a burning fire.

Firefighting Simulation Instructions



Overview:

Your four-person team will be playing a computer-generated game in which a forest fire is burning. The game begins when your team receives an emergency alarm in the chat window that tells you that a fire has been spotted somewhere in the simulated world. During the game one or more fires will start. The initial alarm alerts you to only the first of those fires.

The team's goal is to control and extinguish the fire, as well as save as many houses, schools, and hospitals as possible in the process. Your task is to work as an efficient and effective team to accomplish these goals. The importance of these tasks are reflected in the scoring system below. Hospitals and schools result in the most points lost when they are burned down, followed by houses, water tanks, trees, and normal grass vegetation.

	Grass	Pine/Birch Tree	Water Tanks	House	School/Hospital
Points Deducted	0.25	1	5	25	50

The Simulation World:

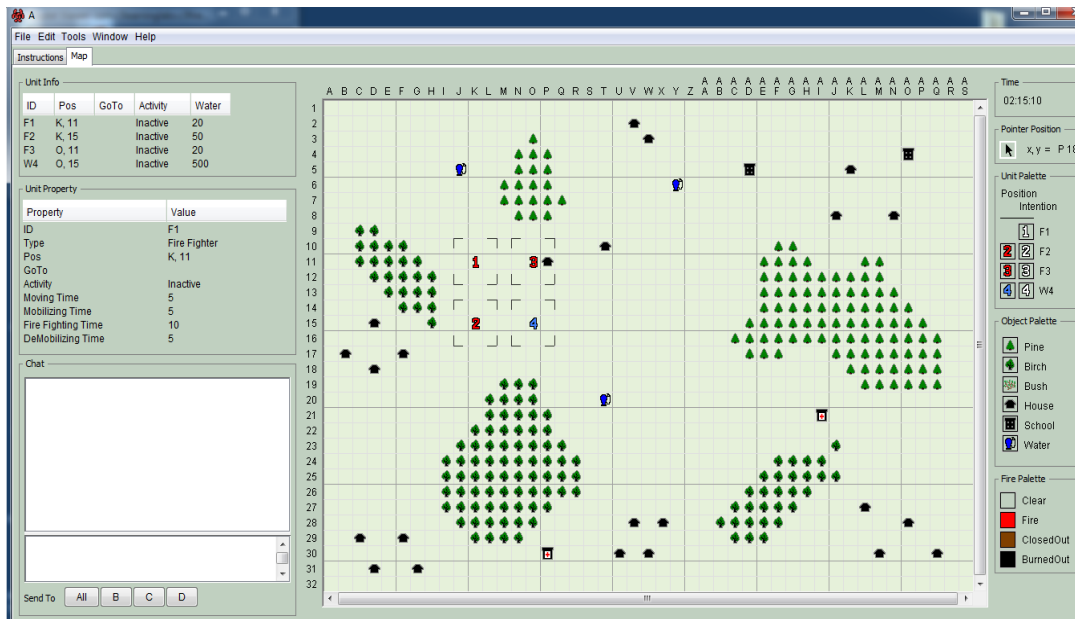
The figure below represents the firefighting simulation. At the top left, you can see your unit information (current position, where you are going, current activity, and amount of water you have).

Below that is the unit property information or the statistics of your unit. For example, a moving time of 5 indicates that it takes 5 seconds to move one cell, a fire fighting time of 10 indicates that it takes 10 seconds to put out a fire, and so on.

At the bottom left of your screen is the chat window, which is how you will exclusively interact with fellow team members. You may not communicate verbally, only via the chat window. In order to send a chat, type a message in the bottom window and click on the person you want to send it to.

On the right hand side of the screen, you can see the position of your mouse pointer, unit position information (red is your current position, white where you are moving to), and a palette explaining each icon.

At the very bottom of the right hand side of the screen, the simulation provides a colored code for each type of fire. Red means the fire is currently burning, brown represents fires that have been successfully put out, and black indicates that the fire has burnt out that cell.



Roles:

Each firefighting team has four members, each with unique and different roles. Each member of the team has the unique ability to see and do things that other members of the team cannot do or see.

You are the **FIREFIGHTER**. This player controls unit 2 in the map and is very **effective in putting out fires**. However, this unit can only see fires and other units that are in one of the 9 surrounding cells. For example, if unit 2 is at B2, he/she can only see fires and players that are in cell A1~3, B1~3, and C1~3. In addition, the Firefighter can move faster than the Fire Chief and Water Carrier.

Playing the Simulation:

In order to move your unit, simply click on your number and drag it to another cell. A white numbered icon should appear on that cell, telling you where your destination is. In order to change your destination before you arrive, simply click on the white number icon and drag it to another cell.

Firefighting occurs automatically when your unit is in a red, burning cell. When that cell turns brown, the fire in that cell has been extinguished.

In addition, **firefighting units need water** to fight fires. You can only refill your water supply by receiving water from the Water Carrier. In order to refill water, you need to stand next to the Water Carrier unit for a certain amount of time. In addition, water cannot be refilled when you're simultaneously fighting a burning fire.

APPENDIX H

SAMPLE OF CONFEDERATE SCRIPT FOR LAB STUDY (STUDY 3)

Firefighting Simulation Instructions



Overview:

Your four-person team will be playing a computer-generated game in which a forest fire is burning. The game begins when your team receives an emergency alarm in the chat window that tells you that a fire has been spotted somewhere in the simulated world. During the game one or more fires will start. The initial alarm alerts you to only the first of those fires.

The team's goal is to control and extinguish the fire, as well as save as many houses, schools, and hospitals as possible in the process. Your task is to work as an efficient and effective team to accomplish these goals. The importance of these tasks are reflected in the scoring system below. Hospitals and schools result in the most points lost when they are burned down, followed by houses, water tanks, trees, and normal grass vegetation.

	Grass	Pine/Birch Tree	Water Tanks	House	School/Hospital
Points Deducted	0.25	1	5	25	50

The Simulation World:

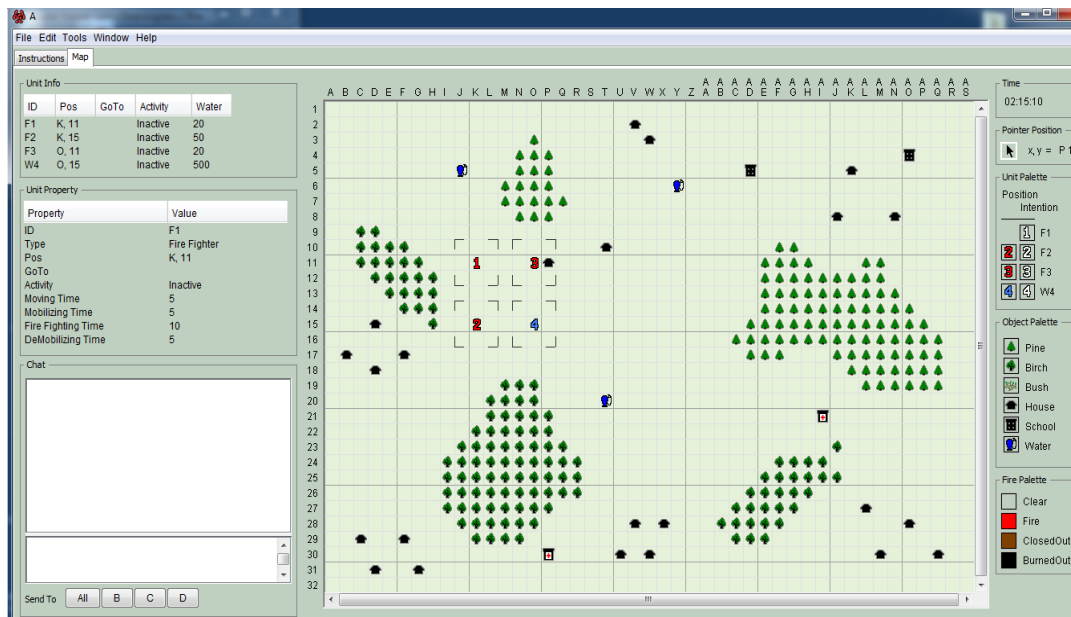
The figure below represents the firefighting simulation. At the top left, you can see your unit information (current position, where you are going, current activity, and amount of water you have).

Below that is the unit property information or the statistics of your unit. For example, a moving time of 5 indicates that it takes 5 seconds to move one cell, a fire fighting time of 10 indicates that it takes 10 seconds to put out a fire, and so on.

At the bottom left of your screen is the chat window, which is how you will exclusively interact with fellow team members. You may not communicate verbally, only via the chat window. In order to send a chat, type a message in the bottom window and click on the person you want to send it to.

On the right hand side of the screen, you can see the position of your mouse pointer, unit position information (red is your current position, white where you are moving to), and a palette explaining each icon.

At the very bottom of the right hand side of the screen, the simulation provides a colored code for each type of fire. Red means the fire is currently burning, brown represents fires that have been successfully put out, and black indicates that the fire has burnt out that cell.



Roles:

You are the **WATER CARRIER**. This player controls unit 4 in the map, and is in charge of filling the other 2 team members with water. The Water Carrier is slower than the Firefighter, but faster than the Fire Chief. Unit 4 also has limited visibility.

You will be provided more than enough water to complete the simulation. However, the Fire Chief is not aware of how much water you have. During this simulation, you will imply that the team does not have enough water to put out all of the fires.

DIRECTIONS FOR SIMULATION:

The time clock is located in the upper right corner of the simulation screen. At 2:21:30, say the following out loud (loud enough to be heard by the other participants):

“Oh, man. I have some really bad news. I just realized we won’t have enough water to put out these fires. This is completely my fault. I should have read my instructions.”

The experimenter will respond by saying “There is no talking during the simulation. Please use your chat screen.”

Say out loud: “Oh, sorry.”

Then type the following into the chat and send the message to BOTH the Fire Chief (A) and Firefighter (B):

Type: **Bad news** (*send*)

Type: **just realized we won't have enough water to put out the fires** (*send*)

Type: **my fault** (*send*)

Type: **I should have read my instructions** (*send*)

Wait 30 seconds and then say the following out loud:

"I think I have a solution."

The experimenter will respond by saying "No talking, please use your chat screen."

Then type the following into the chat and send the message to BOTH the Fire Chief (A) and Firefighter (B):

Type: **I have a solution** (*send*)

Type: **one of the hospitals on my screen is blue** (*send*)

Type: **I will check it out and see if it has water** (*send*)

Move to the nearest hospital. Then follow directions provided by the Chief and continuing playing the game.

GENERAL GUIDELINES FOR PLAY DURING THE SIMULATION:

- Follow the instructions provided by the fire chief.
- Respond to the Firefighter when s/he calls for water. Provide water to the Firefighter.
- Do not offer any ideas or suggestions, other than what you have been instructed to share above. If you are asked for a suggestion, deflect the suggestion to someone else (ex. "I don't know, what do you think we should do?").
- Remain as neutral as possible during the simulation.
- You can respond to chats, but do not initiate chats other than what you have been instructed to share.

APPENDIX I

LIST OF MEASURES FOR LAB STUDY (STUDY 3)

Survey Items for Fire Chief Survey

Manipulation check items

Severity of bad news.

1. The water carrier shared news about an error or mistake that had or could have had really bad implications for our team's ability to put out the fires.
2. If the water carrier shared news about an error or mistake, how bad was the news with regard to the team's ability to put out fires?

Timeliness.

1. The water carrier could have shared news earlier about an error or mistake that had or could have had really bad implications for our team's ability to put out the fires.

Offering solutions.

1. The water carrier offered a solution for addressing any news about an error or mistake that had or could have had really bad implications for our team's ability to put out the fires.

Responsibility for the bad news.

1. The water carrier was at fault for any news about an error or mistake that had or could have had really bad implications for our team's ability to put out the fires.

Survey items

Trust propensity. MacDonald, A. P., Kessel, V. S., & Fuller, J. B. (1972). Self-disclosure and two kinds of trust. *Psychological Reports*, 30, 143-148.

1. I expect other people to be honest and open.
2. I have faith in human nature.
3. I feel that other people can be relied upon to do what they say they will do.
4. I believe in the promises or statements of other people.
5. I am more trusting than a lot of people.

Neuroticism. Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The mini-IPIP scales: Tiny-yet-effective measures of the big five factor of personality. *Psychological Assessment*, 18(2), 192-203.

1. I have frequent mood swings.

2. I get upset easily.
3. I often feel blue.
4. I get stressed out easily.
5. I worry about things.
6. I get irritated easily.
7. I grumble about things.

Psychological safety. Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44, 350-383.

1. If you make a mistake on this team, it is held against you.
2. Team members are able to bring up problems and tough issues.
3. Team members sometimes reject others for being different.
4. It is safe to take risks on this team.
5. It is difficult to ask other team members for help.
6. No one on this team would deliberately act in a way that undermines my efforts.
7. Working on this team, my unique skills and talents are valued and utilized.

Goal commitment. 5-items adapted from Hollenbeck, J. R., Klein, H. J., O'Leary, A. M., & Wright, P.M. (1989). Investigation of the construct validity of a self-report measure of goal commitment. *Journal of Applied Psychology*, 74(6), 951-956; Hollenbeck, J. R., Williams, C. R., & Klein, H. J. (1989). Investigation of the construct validity of a self-report measure of goal commitment. *Journal of Applied Psychology*, 74(1), 18-23.

1. I am strongly committed to pursuing our team's goals.
2. I am willing to put forth a great deal of effort beyond what I'd normally do to achieve our team's goals.
3. There is much to be gained by trying to obtain our team's goals.
4. It would take a lot for me to abandon our team's goals.
5. I think our goals are good goals to shoot for.

Overall performance. Adapted from: Motowidlo, S. J. & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, 79(4), 475-480.

1. The water carrier exceeded standards for overall job performance.
2. The water carrier performed above average compared with other members of the team.
3. The water carrier contributed more to team effectiveness than other members of the team.
4. I would work with this individual in future simulations.

Challenge and hindrance appraisals. 3-items (each) adapted from: LePine, M. A., Zhang, Y., Crawford, E. R., & Rich, B. L. (2016). Turning their pain to gain: Charismatic leader influence on follower stress appraisal and job performance. *Academy of Management Journal*, 59(3), 1036-1059.

Challenge Appraisal

1. The water carrier shared information that helped me achieve the goals of our work group.
2. The water carrier communicated knowledge that assisted me in improving the growth and well-being of our work group.
3. The water carrier provided information that aided me in promoting our team's sense of accomplishment.

Hindrance Appraisal

1. The water carrier communicated information that prevented me from achieving the goals of our team.
2. The water carrier spoke to me about issues that hindered me in improving the growth and well-being of our team.
3. The water carrier offered knowledge that inhibited me from promoting our team's sense of accomplishment.

LMX. Graen, G. B. & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, 6(2), 219-247.

1. I know where I stand with this individual.
2. This individual understands my problems and needs.
3. This individual recognizes my potential.
4. This individual would use his/her power to help me solve problems.
5. This individual would "bail me out" at his/her own expense.
6. I defend and justify this individual's decisions.
7. I have an effective working relationship with this individual.